

**SUBSISTENCE AND PERSONAL USE
SALMON HARVEST ESTIMATES,
YUKON AREA, 1996**

by

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and

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ABSTRACT

The Yukon Area includes all waters of Alaska within the Yukon River drainage and all coastal waters of Alaska from Point Romanof southward to the Naskonat Peninsula. Successful management of Yukon Area fishery resources is dependent upon accurate estimates of subsistence and personal use harvests. Although survey methods have varied throughout the earlier years of the program, survey methods used since 1988 have been relatively consistent, allowing comparisons between years. The number of salmon harvested in the 1996 Yukon Area subsistence and personal use fisheries were estimated from survey and fishing permit programs. Additionally, the number of fish given to households for subsistence use from various Yukon Area test fish projects in 1996 are also documented in this report.

In the majority of the Yukon Area no regulatory requirements exist for fishermen to report their subsistence salmon harvest. To estimate the salmon harvest from villages within this area the department has implemented a voluntary survey program. The 1996 survey program utilized subsistence harvest calendars, postseason household interviews, and postseason household telephone interviews and postal questionnaires. Stratified random sampling techniques were used to select Yukon Area households to be interviewed in 1996. Based on information collected from 951 households that were contacted by surveyors, an estimated total of 38,592 chinook *Oncorhynchus tshawytscha*, 172,153 chum *O. keta*, and 14,460 coho salmon *O. kisutch* were harvested by subsistence fishermen in the survey portion of the Yukon Area in 1996. The chum salmon run is made up of a early (summer) and later (fall) salmon run. The chum salmon harvest was separated into 105,921 summer chum and 66,232 fall chum salmon.

A portion of the Yukon Area requires subsistence or personal use fishermen to obtain an annual household permit prior to fishing. In these areas the fishermen are required to document their harvest on the household permit and return the permit to the department at the end of the season. A total of 518 subsistence and personal use permits were issued in 1996. A total of 486 subsistence and personal use permits (94% of the total permits issued) had been returned to the department as of April 10, 1997. A total of 279 permit holders (57% of the total permits returned) indicated they fished in 1996. The reported permit harvest was 5,939 chinook, 12,394 summer chum, 60,411 fall chum, and 15,134 coho salmon. This reported harvest does not include Stevens Village household permit harvest information. The Yukon River permit information reported by Stevens Village residents was used to supplement the postseason survey of that village.

From the test fishery projects throughout the drainage, not including Tanana and Nenana test fish wheel projects, a total of 1,355 chinook, 7,328 summer chum, 2,971 fall chum, and 1,008 coho salmon were given away to households for subsistence use. Test fish given away in Tanana were accounted for during the subsistence surveys and the test fish given away in Nenana were included in permit harvests.

Combining survey, permit, and test fishery information, an estimated 45,886 chinook, 125,643 summer chum, 129,614 fall chum, and 30,602 coho salmon were harvested by an estimated 1,421 Yukon Area subsistence and personal use fishing households in 1996.

INTRODUCTION

The Yukon Area includes all waters of Alaska within the Yukon River drainage and all coastal waters of Alaska from Point Romanof southward to the Naskonat Peninsula. For management purposes, the Yukon Area is divided into seven districts: a coastal district and six districts within the Yukon River drainage (Figure 1). The Lower Yukon Area, the Coastal District, and Districts 1, 2, and 3, consists of the coastal waters of the Yukon Area and that portion of the Yukon River drainage from its mouth to Old Paradise Village (Yukon River mile 301). The Upper Yukon Area, Districts 4, 5, and 6, consists of that portion of the Yukon River drainage upstream of Old Paradise Village to the Canadian border (Yukon River mile 1,224).

Effective management of Yukon River salmon runs requires knowledge of the number of salmon harvested in the subsistence and personal use fisheries. Five species of Pacific salmon are found in the Yukon River drainage: chinook *Oncorhynchus tshawytscha*, chum *O. keta*, coho *O. kitsutch*, pink *O. gorbuscha*, and sockeye *O. nerka* salmon. Chinook, chum, and coho salmon compose the majority of subsistence and personal use harvests. The chum salmon return is made up of a early (summer chum) and later (fall chum) salmon run. Information concerning subsistence salmon fishery harvests within the Alaskan portion of the Yukon River drainage has been collected by the Alaska Department of Fish & Game (department) since 1961 (ADF&G 1996; Holder and Hamner 1996). The documentation of the subsistence harvest prior to 1961 is limited. However, early exploration reports attest to the importance of subsistence salmon harvests to the people living in the Yukon River drainage (Zagoskin [1847] 1967; Allen 1887). Historical accounts documented that large salmon harvests were used to support dogs which were used for transportation, packing, and as draft animals for hauling wood (Richardson [1900] 1964; Gilbert and O'Malley 1921). Around 1930, the airplane began replacing the sled dog as the primary mail and supply carrier, which contributed to a gradual reduction in the need for subsistence salmon. Additionally, the introduction of snow machines during the early to mid-1960s accelerated the decline of sled dog use.

Subsistence salmon harvests declined substantially in the late 1960s. During the early 1970s, additional employment opportunities, including commercial fishing activities, became available to rural residents (ADF&G 1985). In the Yukon Area it was legal to sell subsistence caught salmon roe from 1974 through 1977. It is likely that the legalization of the sale of subsistence caught salmon roe accounted for the slight increase of subsistence harvest levels observed in those years. Beginning in the early 1980s, there was a renewed interest in the recreational use, as well as the racing, of sled dogs. As the number of dogs increased throughout the drainage, the corresponding need for subsistence salmon that are fed to dogs also increased. Recent survey information indicates that the practice of keeping sled dogs is much more common in the Upper Yukon Area than in the Lower Yukon Area. The number of dogs within a household is considered to be a major factor affecting the amount of subsistence salmon that a household needs.

In addition, as the Yukon River drainage's human population increased, so has the need for subsistence salmon that are used for human consumption. A combined population of approximately 11,700 people of primarily Yupik Eskimo and Athabaskan Indian descent were located within the 40 communities of the Yukon Area, excluding the greater Fairbanks area with a population of approximately 82,000 in 1996 (Williams 1997).

Subsistence and Personal Use Salmon Fishery Description

Yukon Area subsistence fishermen primarily use drift gillnets, set gillnets, and fish wheels to harvest salmon. Personal use fishermen may only use set gillnets or fish wheels to harvest salmon. Set gillnets are the most utilized gear type and are used throughout the Yukon Area; drift gillnets are only legal to harvest salmon in that portion of the Yukon River drainage below rivermile 514; and fish wheels are only used in the upper Yukon River drainage.

Yukon Area subsistence salmon fishing occurs from late May through early October, although this varies within the drainage. Currently, personal use salmon fishing is only allowed within a portion of the Tanana River drainage. Personal use salmon fishing activity typically occurs from late June through early October. Fishing activities are based either from a fish camp or a home village. Extended family groups which represent two or more households, often work together to undertake subsistence salmon fishing. These groups, as well as members of individual households, cooperate to harvest, cut, preserve, and store salmon for subsistence use. Some fishermen from communities not located along the mainstem Yukon River, such as Shageluk and Birch Creek, often operate fish camps along the mainstem Yukon River.

A significant portion of the salmon harvested for human consumption are frozen, dried, or smoked. The majority of the large (greater than 21 inches in length) chinook salmon harvested are used for human consumption. A large proportion of the small chinook salmon, often referred to as "jacks," are also used for dog food. Summer chum, fall chum, and coho salmon are also used for human consumption; however, a relatively large percentage of these salmon are also harvested to feed dogs. During the summer salmon migration, dogs are often fed scraps that become available during the processing of salmon, and relatively few whole fresh salmon are fed to dogs. The majority of the summer chum salmon are dried for winter supplies of dog food. Additionally, fall chum and coho salmon are commonly "cribbed" for dog food. Cribbing fish is the freezing of salmon by the natural air temperature for later winter use. There is usually little wastage of fish taken for subsistence purposes, although damp weather may cause some drying fish to spoil. Personal use fish can only be harvested by Alaska residents for consumption as human food or for use as bait by that individual or his immediate family. Personal use caught fish cannot be fed to dogs or other animals (S. M. White, 1991, Memorandum).

Many subsistence or personal use fishermen also participate in the commercial salmon fishery. During Yukon Area commercial salmon fisheries, some restrictions on subsistence and personal use salmon fishing are required to assist in the enforcement of commercial fishing regulations. However, during the salmon fishing season, substantially more time is allowed for subsistence salmon fishing than for commercial fishing. Throughout most of the history of the Yukon Area commercial salmon fishery, commercial and subsistence fishing periods coincided. However, in 1993 regulations were adopted by the Alaska Board of Fisheries which separated subsistence and commercial salmon fishing times in Districts 1, 2, and 3, and in the lower portion of District 4 (Subdistrict 4-A). In Districts 1, 2, and 3, and Subdistrict 4-A, subsistence salmon fishing is allowed seven days per week until 24 hours before the commercial salmon fishing season. By regulation, subsistence salmon fishing may not occur 18 hours immediately before, during, and 12 hours after each weekly fishing period of the commercial salmon fishing season.

In the upper portion of District 4 (Subdistricts 4-B and 4-C) and in Districts 5 and 6 during the commercial salmon fishing season, the subsistence salmon fishing periods have continued to coincide with the commercial salmon fishing periods. Additional subsistence-only salmon fishing periods are also allowed. Subsistence salmon fishing is allowed seven days per week in District 4 and in the majority of District 5 until 24 hours prior to and 24 hours after the commercial salmon fishing season. Since 1988, in the majority of District 6, the Tanana River drainage, subsistence and personal use salmon fishing is allowed for two 42-hour periods per week throughout the fishing season unless altered by emergency order.

History of Survey and Permit Methodologies

Household survey information since 1961 and permit information since 1974 has been used to estimate the Yukon Area subsistence and personal use harvest. Information has been collected for subsistence salmon harvest surveys through the use of personal or telephone interviews, harvest calendars, and mailed questionnaires. Survey methodologies prior to 1988 were varied, although in all cases surveyors attempted to census all known *fishing families* in a village. A fishing family was defined as one or more households that fished together. The department's Subsistence Division standardized survey methodology beginning in 1988. The survey methodology identified all households in each community and stratified the households into those that *usually fish* and those that *usually do not fish* (Walker et al. 1989). Subsistence harvest information gathered through these surveys was expanded for non-contacted fishing households to provide an annual community estimate.

The stratification methodologies developed in 1988 were further refined to improve the accuracy and precision of the subsistence harvest estimate by the department's Commercial Fisheries Management and Development Division in 1990 (Holder and Hamner 1991) and then again in 1991 (Bromaghin and Hamner 1993). Since 1990, households have been classified into one of five harvest categories. These categories consist of the following: those that are light, medium, and heavy harvesters, those that do not harvest salmon, and those with unknown harvests. The 1990 through 1995 use group classifications were based on the household's annual harvest estimates available since 1988. In 1996, use group classification was based on the two most recent years of information for that particular household since 1992, excluding 1993. In 1993, chum salmon harvests were abnormally low due to poor returns, which required subsistence salmon fishing restrictions and closures. If household harvest information was not available for two recent years, the household use group was left unchanged from its prior identified category. A stratified random sample (Cochran 1977) is drawn from the strata formed by combinations of village and harvest levels. The current method assumes that households tend to harvest the same level in the year being surveyed as they have in prior years. The current sampling design more intensively samples the households with a recent history of heavy harvests.

Data analysis from 1990 to 1995 included using the district's variance to estimate the stratum's variance if a stratum contained only one household contacted. In addition, the district's mean was used to estimate a stratum mean if no households were contacted in the stratum. In 1996, if a stratum contained only one household contacted the stratum's variance was not estimated.

Fishing permits have been required for three sections of the Upper Yukon Area since 1974: (1) the Yukon River drainage near the Yukon River Bridge between Hess Creek and the Dall River; (2) the upper portion of District 5 between the upstream mouth of Twenty-Two Mile Slough and the United States and Canadian border; and (3) the Tanana River drainage near Fairbanks. Beginning in 1988, regulations have required salmon fishing permits for the entire Tanana River drainage. Currently, the Tanana River has areas that require permits specifically for subsistence salmon as well as areas requiring permits for the taking of any freshwater finfish. Within the Fairbanks Nonsubsistence Area permits are required for taking personal use salmon, whitefish, and sucker. Permits are also required to take subsistence pike in the Tolovana River drainage. In permitted areas, the fishing households are required to obtain a permit prior to fishing activity and to return the permit at the end of the season with a record of the harvest. The department depends on this reported harvest to document the harvest levels in permitted areas.

History of the Personal Use Fishery Regulations

Personal use fishing has a lower priority use of the resource than that of subsistence fishing. Due to changes in the state subsistence law in 1986 which limited subsistence hunting and fishing to rural Alaskan residents, the Board of Fisheries created personal use salmon fisheries in the Yukon Area for non-rural state residents. The regulation directed that fishermen residing within non-rural areas be considered personal use fishermen regardless of where they fished. Fishermen residing in rural areas were considered subsistence fishermen regardless of where they fished. The residents of the greater Fairbanks area were considered non-rural fishermen. Initially, only a fall chum salmon personal use fishery was implemented in 1987. In 1988, personal use fisheries in the Yukon Area were created for all salmon species. Under the statutes and regulations that were in effect from 1988 until July 1, 1990, Alaska residents who lived in non-rural areas were prohibited from participating in subsistence fisheries, and subsistence fisheries were limited to rural areas. During that time, non-rural residents harvested salmon under personal use fishing regulations which could apply to both rural and non-rural areas.

Effective July 1, 1990, the Alaska Supreme Court struck down the rural residency requirement for subsistence participation (*McDowell vs. State*) ruling that the Alaska Constitution prevented allocations of fish and game to people based on the location of their residence. The result was that every Alaska resident became eligible for subsistence fishing and, according to a lower court ruling, subsistence fisheries were not limited to rural areas. In effect, this decision made the personal use category obsolete in the Yukon Area. During the 1991 and the 1992 seasons, all fishermen fished under subsistence fishing regulations and no Yukon Area personal use salmon fishing permits were issued.

During a special session in 1992, the legislature revised the subsistence law to once again allow the Joint Boards of Fisheries and Game to divide the state into subsistence and nonsubsistence areas. Inside the nonsubsistence areas, personal use fishing was authorized and the subsistence regulations for these areas were repealed. The Fairbanks Nonsubsistence Area, which is centered around the Fairbanks North Star Borough, was the only nonsubsistence area created by the Joint Boards of

Fisheries and Game in the Yukon Area. The Fairbanks Nonsubsistence Area included the Tanana River drainage above the confluence of the Wood River upstream to the mouth of the Volkmar River on the north bank of the Tanana River and to the mouth of the Johnson River on the south bank of the Tanana River (Figure 2). During the 1993 season, the personal use fishery regulations were implemented in this area. In October 1993, the state superior court ruled in the *Kenaitze* case that the nonsubsistence area provision of the 1992 subsistence law was unconstitutional because it discriminated between different areas of the state. Although the state was initially granted a stay on the effects of that decision pending appeal to the supreme court, the stay was vacated on April 11, 1994. With the stay lifted, the state was required to provide subsistence fishing in nonsubsistence areas during the 1994 season. All Alaskan residents were again qualified as subsistence users during the 1994 fishing season and, although available, no personal use permits were issued.

On May 9, 1995, the Alaska Supreme Court reversed the superior court's ruling, upholding the constitutionality of the nonsubsistence areas. Once again, the Joint Boards of Fisheries and Game adopted regulations that affected the Fairbanks nonsubsistence area. Within nonsubsistence areas, no subsistence fishing is allowed, and personal use fishing regulations are applicable in nonsubsistence areas. The new regulation primarily affected salmon fishermen within Subdistrict 6-C. Subdistrict 6-C falls entirely within the boundaries of the Fairbanks Nonsubsistence Area. The Subdistrict 6-C personal use salmon fishery has a fishery harvest limit of 750 chinook, 5,000 summer chum, and 5,200 fall chum and coho salmon combined.

History of Commercial-Related Harvests

Distinguishing between subsistence and commercial harvests has been made more difficult with the development of the Upper Yukon Area commercial salmon roe fisheries, which began in 1978, and newly developing roe fisheries in the Lower Yukon Area, which began in 1996. A stripped carcass refers to the female salmon flesh that remains after the roe has been removed and sold commercially. Stripped carcasses are a byproduct of the commercial roe fishery and are available to meet subsistence needs.

Beginning in 1990, salmon that were taken commercially but provided both subsistence and commercial use were assigned to a special category called *commercial-related* salmon harvest. Subsistence harvest is defined as those salmon harvested under subsistence fishing regulations. The commercial harvest is reported as fish sold in the round. By regulation, commercial-related harvests in Subdistrict 4-A are considered to be the estimated number of female salmon taken to produce the roe sold and the incidental harvest of male salmon. Although not in regulation, the department estimates harvests in the same manner in the lower Yukon Area and the remainder of District 4 (Subdistricts 4-B and 4-C). For roe fisheries in areas upstream of District 4, the estimated commercial-related harvests only include the estimated number of females harvested to produce the roe sold plus any male salmon sold in the round. The male salmon that are not sold are considered retained as subsistence harvest. Commercial-related salmon harvests can be summed with the subsistence harvest estimate to provide the total potential subsistence utilization. The commercial-related harvests can also be summed with the commercial harvest to provide an estimate of total commercial utilization.

Since 1978, the primary commercial product from the Subdistrict 4-A fishery has been summer chum salmon roe. Since 1981, the number of male and female summer chum salmon carcasses available from the Subdistrict 4-A commercial roe fishery has been more than the Subdistrict 4-A subsistence harvest levels observed in prior years. The department estimates the number of male and female summer chum salmon commercially harvested from the pounds of roe sold. The method expands the roe to estimate fish by using the estimated pounds of summer chum salmon roe per female and the sex ratio observed during each commercial period. It is probable that the unmarketable Subdistrict 4-A male and stripped female summer chum salmon carcasses have replaced a portion of the subsistence harvest in Subdistrict 4-A and surrounding areas. The estimated number of male summer chum salmon taken during a Subdistrict 4-A commercial fishing period is included in the commercial-related harvests. Male summer chum salmon harvested in the Subdistrict 4-A commercial salmon roe fisheries can either be sold in the round or retained for subsistence use, although few males have been sold in recent years.

The number of Subdistrict 4-A commercial-related summer chum salmon available for subsistence use was not estimated by surveys prior to 1983. It is believed that many of the commercial-related salmon harvests were reported as subsistence harvests in these years. In 1984, the Subsistence Division conducted subsistence surveys in the Subdistrict 4-A villages of Kaltag and Nulato. The surveys attempted to exclude the commercial-related summer chum salmon used for subsistence purposes from the subsistence harvest. For this reason, summer chum salmon harvest estimates for Kaltag and Nulato in 1984 were below harvest estimates for previous years. Survey questions were not structured to address the commercial-related harvest during 1985. For 1986 through 1989, Subdistrict 4-A subsistence surveys were conducted to estimate both the subsistence harvest and the commercial-related harvest. Since 1986, the commercial-related summer chum salmon were excluded from the Subdistrict 4-A subsistence harvest estimates in reports.

Beginning in 1990, Subdistrict 4-A commercial fishermen have been required, by regulation, to report on fish tickets the number of fish harvested to produce the roe sold. Prior to 1992, usage of the commercial-related salmon harvest was not addressed by the survey questions. An additional series of questions to address the usage of the commercial-related harvests were added to the survey of Subdistrict 4-A commercial fishermen during the 1992, 1993, and 1995 surveys. The extra survey questions were initiated to investigate the discrepancies between the number of fish the department estimated being harvested in the Subdistrict 4-A summer chum salmon roe fishery and the number of fish commercial fishermen reported harvesting on fish tickets. This survey also took into account the practice of Subdistrict 4-A fishermen releasing male chum salmon directly back into the river during commercial roe fisheries.

In 1994, the Board of Fisheries adopted regulations that allowed a commercial summer chum salmon fishery on the Anvik River (5 ACC 05.368. Anvik River Chum Salmon Fishery Management Plan). The Anvik River is within Subdistrict 4-A and has been managed as a terminal harvest commercial fishery since 1994. The Anvik River commercial summer chum salmon fishery has only involved the sale of roe, which has resulted in additional stripped female summer chum salmon carcasses that have been made available to the area's subsistence users.

METHODS

Personal interviews and returned permits are the primary sources of information used to estimate subsistence and personal use salmon harvested in the Yukon Area. Test fisheries are used throughout the Yukon and Tanana Rivers to index salmon runs. Test fisheries harvest additional salmon that are made available to subsistence users. Salmon given away by these test fisheries are documented by each individual project. Information from surveys, permits, and test fisheries are combined to estimate Yukon Area subsistence and personal use harvests. However, it should be noted that many Stevens Village residents fish in both permit and non-permit areas. Subsistence salmon harvest estimates from Stevens Village are based on the survey information, which incorporates the information from the permits. Stevens Village permit information must be removed from the permit total when combining permit harvest information with survey results to avoid double-counting the salmon harvested.

Subsistence Survey

The 1996 survey program was designed to provide an accurate estimate of the salmon harvested by subsistence fishing households in surveyed villages. The primary components of the survey program were subsistence harvest calendars mailed out prior to fishing activities, postseason personal interviews, and telephone or postal surveys.

The household list database was updated prior to the 1996 survey using the survey information collected in 1995. Some households are removed each year as information is obtained that they no longer reside in the surveyed communities. New households are added to the survey's household database as they are identified. Prior to the 1996 survey, the department identified 112 households to be removed and 155 new households to be added to the various villages database. The database is also updated according to information gathered on households that moved from one survey community to another, those households that combined with another established household in a survey community, and household members who have recently established a household of their own. Harvest information from calendars returned by households that were not selected in the 1995 survey is recorded to ensure households were placed in the correct strata for the 1996 survey.

Prior to fishing activities, the department mailed subsistence harvest calendars to 1,508 Lower and 1,112 Upper Yukon Area fishing households. The Lower Yukon Area calendars contained the months of May through September (Appendix C.1). The Upper Yukon Area calendars contained the months of June through October. Additional calendars were made available to households upon request from department offices in Emmonak and Fairbanks. The calendars were to assist fishermen in recording their daily salmon harvest by species. Enclosed with the 1996 calendar was a letter of appreciation for the fisherman's participation in the previous year's subsistence survey. The letter also included the previous year's subsistence and personal use salmon harvest estimates by village (Appendix C.2). Harvest information from calendars returned prior to or during the subsistence survey was used to assist in the survey of the household. In an effort to improve calendar returns, posters were sent to each village post office to remind fishermen to have their harvest calendars

available for the surveyors. Radio announcements were also broadcast in the area prior to the surveyor's arrival in the village.

A salmon tagging and recapture study conducted in 1986 (Kerkvliet 1986) indicated that residents of the Yukon Area coastal villages of Hooper Bay and Scammon Bay harvest chinook and chum salmon bound primarily for the Yukon River drainage. However, Norton Sound, Kotzebue Sound, and local stocks were also present in the Hooper Bay area. Since 1992, the department has conducted subsistence surveys in these villages.

A list of Yukon Area households located in surveyed communities formed the sampling frame for the stratified random sampling program. Each household on the list was assigned to a subsistence harvest category. These harvest categories consisted of unknown, do not fish, light, medium, or heavy. Households that had no previous harvest information available for placing them into a harvest classification were categorized as unknown. Households that had historical harvest information were placed in a harvest category based upon their average, annual salmon harvest from the two most recent years in the database since 1992, excluding 1993. Because of low returns of salmon and subsequent subsistence restrictions and closures in 1993 during the fall season, the overall 1993 subsistence salmon harvest was the lowest recorded since 1977. Therefore, 1993 harvests were considered atypical and were not used when updating household harvest categories. If information for two recent years was not available, the use group remained unchanged. In the Lower Yukon Area, a average harvest of 1 to 200 salmon was considered light, a harvest of 201 to 500 salmon was considered medium, and a harvest greater than 500 salmon was considered heavy. In the Upper Yukon Area, a average harvest of 1 to 100 salmon was considered light, a harvest of 101 to 700 salmon was considered medium, and a harvest greater than 700 salmon was considered heavy.

A stratified random sample (Cochran 1977) of households was drawn from the stratified population, with strata being defined by the combinations of community of residence and harvest category. In general, stratum sample sizes were established based upon the level of harvest: all of the households in the medium and heavy categories; 30 percent of the households in the light category; 10 percent of the households in the do not fish harvest category; and 20 percent of the households in the unknown harvest category were identified to be sampled during the survey. However, to increase the accuracy or to ensure an adequate sample size, sample sizes were increased for some harvest categories within some villages. In Emmonak, Pilot Station, and Tanana, 30 percent of the households in the do not fish harvest strata and 50 percent of the households in the light harvest strata were identified to be sampled. In Holy Cross, 50 percent of the households in the light harvest stratum were identified to be sampled. In 1996, all households in survey communities with 40 (previously 35) or fewer households were to be sampled. Further, if any stratum sample size obtained using these guidelines was less than five households, the sample size was increased to the smaller of five or the stratum size.

Prior to conducting surveys, the surveyors were required to attend a minimum half-day of instruction that included an overview of the project. Additionally, attempts are made to have an experienced surveyor conduct joint surveys with an inexperienced surveyor during the first several surveys. Appendix C.3 is an example of the 1996 interview form the surveyors used. Interviews were designed to determine if the household participated in the 1996 subsistence salmon fishery, the

number of salmon harvested by species, the number of salmon processed for their own household's use by species, how many other households assisted in the salmon harvest, which other households the harvest was shared with, the number of salmon used that were a byproduct of a commercial fishery, the primary gear type used, the location where the subsistence salmon harvest occurred, and whether their subsistence needs were met.

Additionally, all households surveyed were asked if the household received any salmon from any other subsistence or commercial fishermen or from a test fish project. The survey concentrated on chinook, summer chum, fall chum, and coho salmon, but households were also asked about the number of pink salmon as well as the expected annual harvest of other miscellaneous non-salmon species that may be harvested to meet subsistence needs. Whitefish, pike, and sheefish harvests are expanded by assuming the salmon use categories (light, medium, and heavy) identified for salmon harvesters are applicable to non-salmon harvesters. The survey also included questions regarding the number of people and dogs in the household and the number of chum and coho salmon fed to dogs. Households indicating they had not met their subsistence salmon needs were queried regarding the cause.

An attempt was made to telephonically interview all households that were to be surveyed but were not contacted personally by the surveyors during the village visits. Survey questionnaires with a postage-paid return envelope were mailed to the households that needed to be surveyed but were not contacted during the personal interviews or by telephone. The collection of personal and telephone interview responses was assumed to constitute a stratified random sample. Estimation was performed using classical stratified random sampling methods (Cochran 1977).

Subsistence and Personal Use Permits

Annual subsistence or personal use fishing household permits are required of resident individuals desiring to fish in areas where such permits are required. Subsistence fishing permits are required in areas primarily located within District 5 and the lower portion of District 6 (Subdistricts 6-A and 6-B). In 1996, personal use salmon permits were required in that portion of the Tanana River that falls within the Fairbanks Nonsubsistence Area (Figure 2). Permit applications for the 1996 season (Appendix C.4 to C.6) were mailed to all 1995 permittees who returned their permit. Permit applications sent to rural communities also included an informational letter (Appendix C.7) explaining how to apply by mail and included the schedule of the preseason village permit issuing trips. Permits were issued during these preseason permit issuing trips in the villages of Nenana, Manley, Minto, Central, Circle, Delta, Tok, Dot Lake, Tanacross, Tetlin, Northway, and Eagle. In 1996, personal use permit holders received permit applications by mail. Although subsistence permit applications have been mailed preseason to prior year permit holders for several years, 1996 was the first year personal use permit applications were also mailed out preseason. Permits were also issued in person or by mail throughout the season from department offices in Fairbanks, Tok, and Delta. Other types of household fishing permits issued in the Tanana River drainage include subsistence and personal use whitefish and sucker permits, as well as Tolovana River drainage subsistence pike permits.

Permit holders were required to keep a record of their daily fish harvest on the permit and return the permit at the end of the season. Harvests were tabulated postseason for all permit holders who returned their permit, returned a completed reminder letter, or verbally reported their harvest information. Most household fishing permits had an expiration date of October 15, 1996. Tolovana River drainage pike fishing permits, Kantishna River drainage salmon fishing permits, personal use whitefish and sucker permits in the Fairbanks Nonsubsistence Area, and Upper Tanana River drainage fishing permits expired on December 31, 1996. One personal use whitefish and sucker permit expired on October 1, 1996.

Permittees were required to return the permit to the department within 10 days of the permits expiration. Reminder letters were used in an attempt to improve the accuracy of the permit harvest information and to improve compliance. Fishermen who had not reported their required 1996 harvest information were sent a reminder letter on October 31, 1996 (Appendix C.8). On November 15, 1996, a second reminder letter was sent to all permittees who still had not reported their required harvest information. Fishermen that held permits which required weekly inseason reporting and had complied with the verbal reporting requirement at least once during the fishing season but failed to return their permit were sent first and second reminder letters. The letters expressed the department's appreciation for the verbal reporting inseason and asked them to confirm their season's total harvest (Appendix C. 9). The Tolovana River drainage pike fishery, the personal use whitefish and sucker fishery, and the upper Tanana River drainage fishing permit holders were sent their first reminder letter on January 8, 1997, and a second reminder letter was mailed on January 31, 1997.

Test Fishery

Test fishery programs are annually occurring projects in which salmon are caught in locally used gear types (drift gillnets, set gillnets, or fish wheels) and the catch or catch per unit effort (CPUE) is compared within and between years to provide information on run timing, species composition, and relative abundance. Salmon harvested in Yukon Area test fisheries are frequently given to the public. Salmon harvests given away from test fisheries are included in village subsistence harvest estimates since it is highly probable that the test fish salmon replace salmon that would have been obtained through more traditional subsistence fishing activities.

RESULTS

A total of 45,886 chinook, 125,643 summer chum, 129,614 fall chum, and 30,602 coho salmon were estimated to have been harvested in the Yukon Area by 1,421 subsistence and personal use fishing households in 1996. These estimates include salmon given away by the test fish program. The 1996 permit harvest information is based on permits returned as of April 10, 1997. Table 1 summarizes the 1996 Yukon Area salmon harvests, by community of residence, that are gathered from subsistence surveys, from subsistence and personal use permits, from test fisheries that were given away, and includes other related information. Appendices B.1 through B.4 document the

historical, annual subsistence salmon harvest from 1985 to 1996 by species and by village of residence.

Subsistence Survey

The 1996 survey database contained 2,484 households in 34 Yukon Area village communities included in the survey area (Table 2). The stratified random sampling design identified 1,085 households to be surveyed in 1996. Surveyors from the department's Commercial Fisheries Management and Development Division traveled to villages between September 5 and November 1, 1996. Surveyors attempted to interview a member of each household identified in the sample, preferably the primary harvester. A total of 951 households, or approximately 88 percent of the households identified to be sampled, were contacted in 1996. The contact number does not include seven households that declined to participate in the personal interview. A total of 149 calendars, or 6 percent of approximately 2,620 calendars distributed, were either picked up by surveyors during the interviews or mailed back to the department. Survey questionnaires that were mailed out and returned were often incomplete, resulting in partial surveys.

A total of 1,146 households, or 46 percent of the total 2,484 Yukon Area households, were estimated to have participated in a subsistence salmon fishery (Table 3). In 1996, a total of 9,436 people were estimated to have resided in the 34 surveyed villages (Table 4). Of the 524 households that reported fishing in surveyed villages, approximately 52, 33, 14, and 1 percent indicated that their primary gear types were set gillnet, drift gillnet, fish wheel, or hook and line (jigging), respectively (Table 5).

The estimated salmon harvested by households sampled in the surveyed villages was 38,592 chinook, 105,921 summer chum, 66,232 fall chum, and 14,460 coho salmon (Table 6; Appendices A.1 through A.4). Tables 7 through 10 identify subsistence salmon harvest estimates by surveyed village and by fishing location.

The 1996 survey included questions concerning pink salmon and ten other selected miscellaneous non-salmon species harvests (Table 11). Of these, pink salmon, whitefish, pike, and sheefish are expanded to estimate total Yukon Area harvests for the surveyed villages while the remainder are the unexpanded reported harvests. Pink salmon harvest estimates totaled 5,132 fish, most of which were harvested by communities within the Coastal District. Whitefish are the most utilized miscellaneous non-salmon species. Distinguishing whitefish harvests between large whitefish (4 pounds or greater) and small whitefish (less than 4 pounds) began in 1995. The 1996 Yukon Area subsistence harvest included an estimated 27,099 large whitefish, 37,688 small whitefish, 18,978 pike, and 17,923 sheefish. The 1996 pink salmon return was a high abundance year in the two-year cycle.

The estimated subsistence use of salmon by species is organized by community of residence and harvest strata in Table 12 (Appendices A.5 through A.8). The 1996 Yukon Area estimated numbers of salmon used for subsistence purposes totaled 37,942 chinook, 261,543 summer chum, 81,527 fall chum, and 15,545 coho salmon, and includes salmon used by fishing and non-fishing households.

The estimated use includes salmon harvested during subsistence activities, fish received from other individuals (includes receiving test fish harvests), and those retained from commercial harvests. An estimated total of 1,074 chinook, 355,165 summer chum, 16,243 fall chum, and 516 coho salmon were retained from commercial harvests and used for subsistence purposes by Yukon Area surveyed households (Table 13). Of the estimated number of salmon harvested for subsistence purposes, 97, 23, 80, and 97 percent of the chinook, summer chum, fall chum, and coho salmon, respectively, were obtained from the subsistence fishery, the remainder were primarily commercial-related harvests.

In the surveyed communities, an estimated total of 5,541 dogs are owned by an estimated 1,635 households (Table 14). An estimated 147,595 summer chum, 56,581 fall chum, and 8,751 coho salmon were retained for dog food from both subsistence and commercial salmon harvests in the surveyed communities (Table 15).

A total of 230 Yukon Area surveyed households, or approximately 24 percent of the surveyed households, reported that they did not meet their subsistence salmon needs in 1996. During the 1996 season, the chinook salmon run arrived earlier than average which caught many fishermen unprepared. The responses of those who had not met their needs included the categories: lost opportunity to fish due to high water or inclement weather; no helper to harvest or process more fish; poor run of fish; not enough fish caught; and still fishing at the time of the survey. These responses represent 6 percent of the total households surveyed that had not met their needs and were actively fishing. The majority of these responses referenced the early chinook salmon return. The remaining responses represent 19 percent of the total households surveyed which responded that they had not met their needs due to other reasons such as another occupation, no fishing gear, too busy doing other things, medical reasons, out of town during the fishing season, and other various explanations. Table 16 categorizes the reasons households gave why their subsistence needs were not met. Appendix A.12 provides specific, individual responses given by the surveyed households.

Subsistence and Personal Use Permits

A total of 518 subsistence and personal use household permits were issued during the 1996 fishing season (Table 17). A total of 32 households obtained two permits in order to fish in two different permit areas. Most of these two-permit fishing households were in the village of Minto. Separate permits are required for the taking of salmon on the Yukon or Tanana Rivers and for the subsistence harvest of pike in the Tolovana River drainage. Permit issuing began in mid-May when department representatives traveled to 12 interior villages and issued 139 permits. The remainder of the permits were issued either by mail or to individuals who applied for a permit in person at department offices in Fairbanks, Tok, or Delta.

Approximately 76 percent of the permits had an expiration date of October 15, 1996, and approximately 24 percent of the permits had an expiration date of December 31, 1996. Permit holders are required to return their permits within 10 days of permit expiration. Reminder letters were sent to households with expired permits on October 31, 1996, November 15, 1996, January 8, 1997, and January 31, 1997. Corresponding with the reminder letter dates, the percentage of permit

holders that had returned their harvest information increased from 38 percent, to 57 percent, to 78 percent, and resulted in an overall return of expired permits of 94 percent (486 permits returned) as of April 10, 1997.

A total of 5,792 chinook, 11,489 summer chum, 60,055 fall chum, and 14,936 coho salmon were reported by subsistence permit holders in 1996. Personal use permit holders reported harvesting a total of 215 chinook, 905 summer chum, 356 fall chum, and 198 coho salmon in 1996. Table 17 contains a summary of the number of fish harvested by permit type and by area. Table 18 contains similar information, but organizes it by the permittee's community of residence and by the drainage of the harvest. The 279 households that fished in permit areas were estimated to have operated the following primary gear types: 77 percent set gillnets, 18 percent fish wheels, and 5 percent reported other gear types.

Historic subsistence permit harvest information for salmon is summarized in Appendices B.5 and B.6. During the 1996 fishing season, personal use fishing permits were required in Subdistrict 6-C and in a portion of the upper Tanana River within the Fairbanks Nonsubsistence Area. Historical personal use salmon harvest information is summarized in Appendices B.7 and B.8. Historical subsistence and personal use salmon carcass permit information for the fishery near the confluence of the Delta and Tanana Rivers from 1973 to 1994 is summarized in Appendix B.9. In November 1994, the Board of Fisheries adopted regulations that closed the lower portion of the Delta River for the collection of salmon carcasses.

A total of 385 subsistence permits were issued, of which 232 households reported having 2,207 dogs. Of these households with dogs, 159 households indicated they fed whole fish to their dogs. In 1996, subsistence permit fishermen reported harvesting 57,935 whole salmon which were fed to dogs or preserved for dog food (Table 19). Salmon fed to dogs were not identified by species. Personal use permittees were not asked dog-related information because the fish harvested under the personal use regulations cannot be fed to dogs.

Test Fishery

A total of 2,753 chinook, 14,785 summer chum, 10,590 fall chum, and 2,743 coho salmon were given away by test fish projects in 1996 (Table 20). Residents in the communities of Emmonak, Kotlik, Mountain Village, Pilot Station, Tanana, Fort Yukon, and Nenana were the primary recipients of these fish.

DISCUSSION

Subsistence Surveys

The 1996 subsistence salmon survey harvest estimates are not strictly comparable to estimates obtained in all other previous years. Commercial-related harvests retained for subsistence purposes were included in the estimates of subsistence harvests prior to 1988. Surveys conducted prior to 1979 were conducted preceding the completion of the fishing season and only partially documented the harvest for the later running fall chum and coho salmon. Additionally, the sampling design and questionnaire have changed periodically throughout the history of the program (Brannian and Gnath 1988; Holder and Hamner 1990; Holder and Hamner 1991; Bromaghin and Hamner 1993).

During personal interviews, surveyors attempted to interview an adult member of the household, preferably the primary harvester. The quality of the harvest estimate is dependent upon the collection of complete and accurate information. Both the surveyor and the surveyed individual contribute to the quality of the estimate. Surveyors have a responsibility to contact all the households to be surveyed and to ensure that questions are asked consistently and understandably while fostering a cooperative atmosphere. The household member being interviewed has the responsibility to accurately answer the questions.

Species identification of the harvest is also a concern. For example, fishermen in portions of the Upper Yukon Area use the term "silver" to refer to any bright, silvery salmon. Both fall chum and coho salmon can remain relatively bright late into the season. It had been suggested that pictures of the different salmon species might be helpful in assisting individuals in providing surveys with more accurate species numbers. In 1992, surveyors attempted to show pictures of the different salmon species to assist fishermen in identifying the salmon harvested. Unfortunately, it was difficult for many fishermen to associate the salmon they harvested with the pictures. The most useful technique identified to date is for surveyors to know the local, common names of the fish species. In recent years, surveyors have been provided with the common species names for each village surveyed.

During the 1991 subsistence survey, only subsistence fishing households were asked dog-related information. Beginning in 1992, all surveyed households, whether they fished or not, were asked how many dogs they owned and the number of whole salmon fed to the dogs. The difference in asking all households for dog information accounts for the significant increase in the estimated number of dogs reported on surveys since 1992 (Appendix B.10). The decrease in the number of dogs reported on permits in District 6 in 1995 and 1996 is because dog-related questions were not asked of those households fishing in the Fairbanks Nonsubsistence Area since personal use salmon cannot legally be fed to dogs.

The variability of water levels from year to year and within the season can greatly affect the available opportunity and efficiency of fishermen. During high water events, debris coming downstream is a major hazard and increases the occurrence of lost or destroyed gear. However, it has been observed that high levels of harvest can occur during high water events in sites that remain

relatively drift free, possibly due to the velocity of the water forcing the fish to the banks. During low water events, loss of a fishing site becomes an important factor. The department's water level database includes water levels from 1987 to 1995 and is represented by maximums, averages, and minimums compared to the current year. During the 1996 fishing season, water levels were well below average on the Yukon River resulting in some new record lows (Appendix A.13). Water levels on the Tanana River are largely an indication of summer temperatures and the corresponding glacial melt at its headwaters, although it is also affected by rainstorm events in its tributaries. In 1996, the Tanana River set new record lows for most of the season. The Salcha River flowing into the Tanana River is mostly affected by spring run off and rainstorm events. The Salcha River was also well below average and set new, low records throughout the season.

The 1996 subsistence harvest of chinook salmon was below average when compared to the recent five-year 1991 to 1995 average harvest (Figure 3). This decline in the chinook salmon harvest appears to be related to the unusually early migration timing of chinook salmon which caught many fishermen unprepared. The summer chum salmon harvest was similar to the recent five-year 1991 to 1995 average harvest (Figure 4). The five-year 1986 to 1990 summer chum salmon average harvest is substantially greater, primarily due to the fact that the surveys prior to 1988 included commercial-related harvests. Summer chum salmon roe sold in Districts 3, 4, 5, and 6 produced female carcasses that were retained from the commercial harvest and were available for subsistence use.

The fall chum salmon subsistence harvest was above average in 1996 when compared to the recent five-year 1991 to 1995 average harvest (Figure 5). However, the 1996 harvest was well below average when compared to the 1986 to 1990 five-year average harvest. The 1991 to 1995 average contains the low harvest in 1992 which resulted from an early freeze up. The average also contains 1993 and 1994 harvests in which regulations restricting the fall season fishery resulted in reduced fishing opportunities. Due to recent changes in the salmon markets, subsistence harvests of fall chum salmon in 1995 and 1996 also appear lower than historical. The decrease in these years is primarily due to the increase in commercial-related harvests in which fall chum salmon carcasses became available and replaced some of the subsistence harvest. The coho salmon harvest was affected by the same fishing restrictions in 1993, but did not show a similar reduction in 1994. The 1996 coho salmon harvest was below the recent five-year 1991 to 1995 average harvest (Figure 6).

The commercial sale of fall chum salmon flesh was reduced in 1995 and 1996 due to market conditions. Unusually poor flesh markets for fall chum salmon were reflected in the above average level of commercial sales of fall chum salmon roe in Districts 4 and 5. It appears that the larger than average commercial-related fall chum salmon carcasses available for subsistence users has replaced a large portion of the subsistence harvest in these areas. Correspondingly, a below average subsistence fall chum salmon harvest was documented in Districts 4 and 5 during 1995 and 1996, particularly in the village of Tanana.

The village of Tanana had a 1991 to 1995 five-year average subsistence harvest of approximately 26,000 fall chum salmon. These years represent lower than historic fall chum salmon subsistence harvests due to the 1993 and 1994 subsistence restrictions reducing potential harvests. Also in view of poor flesh markets during 1995 and 1996, the increase in the availability of commercial-related fall chum salmon carcasses appears to have displaced some of the subsistence harvest. The village of Tanana's 1986 to 1990 five-year average subsistence harvest is approximately 35,000 fall chum

salmon. This can be compared to the 1996 village of Tanana subsistence harvest of approximately 21,000 fall chum salmon. Approximately 15,000 female fall chum salmon carcasses were available in the village of Tanana for subsistence use after the roe was extracted and sold. These commercial-related female carcasses are believed to have met some of the subsistence needs in 1996. When the subsistence harvest for the village of Tanana is added to the commercial-related harvest, the subsistence use of approximately 36,000 fall chum salmon was near the recent average observed for the village.

The Subdistrict 4-A commercial roe fishery poses a special challenge to the program. With the large number of salmon harvested and the release of male chum salmon, it has been difficult to estimate the commercial-related harvests and the number of summer chum salmon carcasses used for subsistence in Subdistrict 4-A. Although the commercial-related male and female carcasses are used for subsistence, these fish are considered a part of the commercial harvest since they are harvested under commercial regulations. A supplemental Subdistrict 4-A survey was conducted in 1992, 1993, and 1995 to improve the understanding of commercial-related harvests and the usage of the commercial-related harvests in fulfilling subsistence needs (Borba and Hamner 1996).

Since 1992, the subsistence survey began addressing the issue of what portion of the salmon harvest was used for the household or whether the household was given any additional salmon. When a household was given salmon, the surveyor asked them to identify the household that gave the salmon to them. The responses to these questions provided the department with an estimate of the amount shared between households. This information also assisted the department to ensure that each fishing household was in the proper harvest stratum since it is based on the amount of salmon caught and not the amount used.

During the subsistence survey interview, fishermen are requested to estimate the number of salmon they obtained from the commercial roe fishery (commercial-related) to meet their subsistence needs. An alternate method to estimate this by-product of the commercial fishery is through the information submitted on fish tickets. An estimate of the commercial-related salmon harvest can be determined based on the number of pounds of salmon roe delivered. Usually the number of commercial-related salmon obtained from the survey questionnaire is substantially lower than the estimate of the commercial-related harvests based on the pounds of roe sold commercially. A portion of this discrepancy in estimations could result from the practice of releasing live male chum salmon during the pursuit of roe producing females as in the Subdistrict 4-A fishery. Based on the knowledge that the releasing of male chum salmon does occur, the subsistence salmon survey estimate of total subsistence use should be considered conservative.

Subsistence and Personal Use Permits

Spring permit issuing trips work well, especially for rural residents, for the distribution of subsistence and personal use fishing permits. Permits are also available through the mail or at the department offices in Fairbanks, Tok, and Delta. However, more effort could be used to improve the weekly harvest reporting requirement from personal use fishermen in Subdistrict 6-C and subsistence fishermen in that portion of Subdistrict 6-B three miles upstream of Totchaket Slough.

The upper Tanana River villages were added to the permit issuing trips in 1995 to provide consistent opportunities for these rural communities. By regulation, personal use permits were only issued for those fishing for salmon, suckers, and whitefish in the Fairbanks Nonsubsistence Area in 1996.

Some fishermen have expressed confusion on where to report subsistence fish taken during commercial/subsistence periods. The current, regulatory reporting requirements for fish tickets during commercial/subsistence salmon fishing periods includes reporting the number of fish taken but not sold. A problem exists for both commercial fishermen and the department when attempting to clarify as to whether these unsold fish were reported during the survey, on the calendar, or on a permit so that they are not double-counted in the final village harvest estimates. In an effort to make the regulation more understandable, a letter was distributed to all the commercial/subsistence fishermen and salmon buyers in Subdistricts 4-B and 4-C and Districts 5 and 6 of the Upper Yukon Area. In these areas, the commercial and subsistence openings coincide and any fish not sold during a commercial opening is considered subsistence. This letter explained where and how to report harvests when commercial fishermen take unsplit female or male fish from a commercial/subsistence period for subsistence purposes (Appendix C. 10). The department did receive comments back concerning the letter. Generally, fishermen found the letter helpful in clarifying how the department was using the numbers and expressed that the regulation requiring the reporting of salmon "taken but not sold" in the portions of the drainage where subsistence and commercial periods coincide be removed.

Test Fishery

During the 1996 season, test fisheries were operated throughout the drainage by various agencies or organizations. These test fish are routinely given away and the numbers are documented as being received by the primary recipient villages (Table 20). However, some test fish are given away to residents of villages adjacent to the primary villages listed (Appendix A.11). In 1996, the Tanana River tag deployment fish wheel and the Tanana River right bank recovery test fish wheel near Nenana did not give any fish away for subsistence use. These fish wheels operated with a live box, and all fish caught were released alive or retained by the operator for their own subsistence use.

RECOMMENDATIONS

Although some individuals may accurately recall the numbers of salmon they harvested during the fishing season, others are only able to provide a rough estimate of their subsistence harvest. Minimizing this problem necessitates that fishermen accurately record their salmon harvests inseason. The department currently uses the harvest calendars, which are mailed preseason to all Yukon Area households residing in surveyed communities. Harvest calendars are distributed to encourage fishermen to record their harvests daily. It is known that there are large household harvests of primarily chinook and fall chum salmon that are being taken in the upper Yukon Area, for example District 5, which are not accounted for by either surveys or permits. These individuals

typically reside in a permitted community but fish in a surveyed community area; thus their harvests are not collected by either method. In recent years, attempts have been made to distribute subsistence survey calendars to these individual households, but so far the number of calendars returned has been poor. It is recommended that some type of incentive program for returning completed harvest calendars needs to be investigated since the return of calendars continues to remain low in all areas.

Community household lists have formed the basis of the sampling frame since 1988 (Walker et al. 1989). Each year, surveyors have attempted to update the list by having knowledgeable individuals in each community review and update the list. This process alone is not sufficient enough to maintain a complete and accurate community household list due to the dynamic nature of most communities. The harvest estimates obtained from the sampling program are based on the most complete and accurate household list available. Households identified from a recent Alaska Permanent Fund list may improve the sampling frame for the 1997 survey. It is recommended that the Alaska Permanent Fund list be obtained annually. Additional efforts need to be expended to minimize the size of the unknown use category by directing surveyors to contact any new households to have their use categorized for the following year's survey. Efforts thus far have resulted in the decline of the unknown use group by as much as 85 percent. Reducing the size of the unknown use category is an annual effort since this fluctuates with the identification of new households in any given community. In recent years, surveyors have been provided with lists of unknown harvest households to contact during the surveys and are encouraged to classify each new household for its inclusion in the database.

Several village organizations were willing to share their community household lists that they had prepared for their own village census purposes. Other community lists such as telephone and utility registers were also reviewed. One of the largest problems with the sampling frame is that, even though it is updated annually, nearly a full year passes from the update to when the next sampling occurs. Methods for updating and maintaining an accurate sampling frame must continually be explored.

To reduce problems with ambiguous or confusing questions, the interview form is continually being reviewed. Its consistent application will only be achieved by additional training time for surveyors and by gaining an understanding of how the person being interviewed might interpret the questions. To minimize these problems, continual feedback of what the surveyors encounter in relationship to the questions must be relayed back to the developers of the interview questions.

In 1996, approximately 88 percent of the surveyed households to be sampled were contacted and approximately 94 percent of the permits were returned. It had been a concern in the past that not enough households were contacted. To increase contact rates, several techniques have been implemented in recent years, including spending more time in the villages and increasing the effort to make contacts through the telephone and postal systems. Experience has shown that spending more time in the villages is the best practical method of increasing the number of contacts. Telephone contacts are constrained due to the limited availability of telephones in the villages and the reluctance of people to return messages even when they may call collect. The interview forms that were sent to households which could not be personally interviewed or contacted by telephone

are not useful due to the low response rate. Interview forms that are returned by mail are usually incomplete.

If the commercial Yukon Area salmon roe markets expand while the salmon flesh markets continue to decline, the survey and permit program may need to find new ways to address the issue of how to better interpret commercial-related harvests more comprehensively as it relates to fulfilling subsistence needs.

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Table 1. Combined subsistence and personal use salmon harvest estimates, test fish harvests given away for subsistence use, and related information
Yukon River, 1995. a

Village	Survey Date or Permit Village	Fishing Households b	Dogs	Estimated Harvest				Primary Gear Used		
				Chinook	Summer Chum	Fall Chum	Coho	Set Nets	Drift Nets	Fish Wheels
Hooper Bay	9/13, 9/27	c	109	219	1,127	15,870	392	92	105	0
Scammon Bay	9/14		55	187	1,238	6,365	0	0	55	0
<i>Coastal District Subtotal</i>			164	406	2,365	22,235	392	92	160	0
Sheldon Pt.	9/9		24	85	450	2,634	21	138	21	3
Alakanuk	9/6-9/7, 9/29		52	187	662	6,171	100	103	35	17
Emmonak	9/5-9/8	d	62	178	702	6,097	1,501	594	16	46
Kotlik	9/10	e	50	232	1,832	12,387	2,525	1,610	24	24
<i>District 1 Subtotal</i>			188	682	3,646	27,289	4,147	2,445	96	90
Mt. Village	9/18, 9/20	f	74	260	1,315	9,285	1,366	276	5	69
Pitkas Pt.	9/19		22	77	762	1,619	603	691	2	19
St. Marys	9/16-9/18, 9/20		63	171	1,766	6,736	658	292	6	52
Pilot Station	9/24-9/25	g	52	117	1,811	6,355	448	1,258	21	31
Marshall	9/23		46	419	2,126	4,431	2,212	958	14	32
<i>District 2 Subtotal</i>			257	1,044	7,780	28,426	5,287	3,475	48	203
Russian Mission	9/21		40	201	2,709	3,554	587	255	20	20
Holy Cross	9/21		39	99	3,953	1,700	1,814	0	23	16
Shageluk	9/24		16	213	121	6,114	305	189	16	0
<i>District 3 Subtotal</i>			95	513	6,783	11,368	2,706	444	59	36
Lower Yukon Area Total			704	2,645	20,574	89,318	12,532	6,456	363	329
Anvik	9/24-9/25		20	78	768	185	457	44	9	4
Grayling	9/26		35	148	1,036	587	1,759	236	22	7
Kaltag	10/10		40	102	994	31	1,049	298	6	14
Nulato	10/8-10/9		51	305	1,461	1,003	2,299	149	12	19
Koyukuk	10/8		10	117	402	41	2,458	476	4	4
Galena	10/7, 10/11		71	312	2,770	3,902	6,620	780	38	5
Ruby	10/14		8	96	557	2,016	561	376	7	0
<i>District 4 Yukon R. Subtotal</i>			235	1,158	7,988	7,765	15,203	2,359	98	53
Huslia	10/9		10	193	67	2,372	298	18	10	0
Hughes	10/10		5	70	54	1,411	274	51	5	0
Allakaket	10/21		18	113	82	4,668	961	39	16	0
Alatna	10/21		2	11	2	209	0	0	2	0
Bettles	10/22		2	62	0	0	50	0	2	0
<i>Koyukuk R. Subtotal</i>			37	449	205	8,660	1,583	108	35	0
<i>District 4 Subtotal</i>			272	1,607	8,193	16,425	16,786	2,467	133	53
Tanana	10/15-10/16		55	472	2,741	5,190	21,420	6,110	21	0
Rampart	10/22		13	46	1,751	1,188	896	5	10	0
Fairbanks NSB	permits	h	30	191	1,166	2,958	2,727	42	25	0
Stevens Village	10/16, permits	j	7	67	681	530	991	2	7	0
Birch Creek	10/23		1	13	0	0	0	0	0	0
Beaver	10/16		13	47	886	572	9	7	12	0
Ft. Yukon	10/30-11/01	k	69	422	4,957	26	8,144	157	37	0
Circle	permits	m	8	65	1,781	271	5,308	0	4	0
Central	permits	n	5	14	131	53	132	0	5	0
Eagle	permits	o	32	214	1,092	105	14,916	1	25	0
Other	permits	p	5	22	377	616	505	0	3	0
<i>District 5 Yukon R. Subtotal</i>			238	1,573	15,563	11,509	55,048	6,324	149	0

-Continued-

Table 1. (page 2 of 2). a

Village	Survey Date or Permit Village	Fishing Households b	Dogs	Estimated Harvest				Primary Gear Used		
				Chinook	Summer Chum	Fall Chum	Coho	Set Nets	Drift Nets	Fish Wheels
Venetie	10/21-10/22	6	155	134	0	7,195	264	6	0	0
Chalkyitsik	10/29-10/30	4	67	30	0	1,230	0	3	0	1
<i>Chandalar/Black Rivers Subtotal</i>		10	222	164	0	8,425	264	9	0	1
<i>District 5 Subtotal</i>		248	1,795	15,727	11,509	63,473	6,588	158	0	87
Manley	permits q	16	425	134	1,219	10,662	2,462	10	0	6
Minto	permits r	33	316	523	1,421	4,381	1,223	23	0	9
Nenana	permits s	32	481	423	4,411	14,210	7,883	17	0	15
Healy	permits t	4	96	0	33	1,384	1,011	4	0	0
Fairbanks NSB	permits u	94	226	312	1,295	6,084	2,509	79	0	4
Delta Junction	permits v	5	3	0	2	91	3	5	0	0
Other	permits w	13	147	0	10	11	0	13	0	0
<i>District 6 Tanana R. Subtotal</i>		197	1,694	1,392	8,391	36,823	15,091	151	0	34
Upper Yukon Area Total		717	5,096	25,312	36,325	117,082	24,146	442	53	195
Survey Village Subtotals		1,144	5,541	38,592	105,921	66,232	14,460	592	382	144
Permit Area Subtotals		277	2,200	5,939	12,394	60,411	15,134	213	0	51
Test Fish Subtotals x				1,355	7,328	2,971	1,008			
Alaska, Yukon Area Total		1,421	7,741	45,886	125,643	129,614	30,602	805	382	195

- a Data collected by Alaska Department of Fish and Game, (ADF&G) Commercial Fisheries Management and Development Division. Survey data is expanded for number of fishing households, number of dogs, and harvest. Permit data is unexpanded, the number of dogs is based on information obtained from permits issued, while the number of fishing households and their harvest is based on returned permits. Gear data represents the primary gear types used by fishing households.
- b Estimated number of households that fished in surveyed communities or number of permit households who reported fishing in permit required areas.
- c A 1986 Hooper Bay salmon tagging study conducted by the Bering Sea Fishermen's Association (BSFA) suggested that harvests in the Nuok Spit area of Hooper Bay intercepted Yukon River and Norton Sound chum salmon stocks.
- d Includes 329 chinook, 879 summer chum, 693 fall chum, and 326 coho salmon from ADF&G test fish catches.
- e Includes 1,026 chinook, 6,173 summer chum, 728 fall chum, and 429 coho salmon from ADF&G test fish catches.
- f Includes 319 fall chum and 228 coho salmon from BSFA test fish catches.
- g Includes 276 summer chum, 150 fall chum, and 25 coho salmon from ADF&G test fish catches.
- h Fairbanks North Star Borough households that obtained a permit to fish in a Yukon River permit required area. Of the 46 permits issued, 43 returned their permits, and 30 indicated that they fished.
- j Permit harvest information from Stevens Village residents was used to compliment the information obtained by the survey.
- k Includes 1,081 fall chum salmon from Council of Athabaskan Tribal Governments (CATG) test fish catches.
- m Of the 11 permits issued in Circle, 11 returned their permits and 8 indicated that they fished.
- n Of the 7 permits issued in Central, 7 returned their permits and 5 indicated that they fished.
- o Of the 56 permits issued in Eagle, 55 returned their permits and 32 indicated that they fished.
- p Other includes residents of Manley, Minto, Nenana, and the Upper Tanana River drainage villages of Northway and Tok, who obtained a household permit to fish in a Yukon River permit required area. Of the 10 permits issued, 10 returned their permits and 5 indicated that they fished.
- q Of the 23 permits issued in Manley, 21 returned their permits and 16 fished.
- r Of the 77 permits issued in Minto, 63 returned their permits and 33 indicated that they fished. Includes 32 Tolovana River Pike permits.
- s Of the 48 permits issued in Nenana, 2 were personal use permits and 46 were subsistence permits, 46 returned their permits and 32 indicated that they fished. Includes 3 households that obtained a permit to fish on the Kantishna River.
- t Of the 9 permits issued in Healy, 9 returned their permits and 4 indicated that they fished. Includes one household that obtained a permit to fish on the Kantishna River.
- u Fairbanks North Star Borough fishermen who obtained a permit to fish the Tanana River. Of the 182 permits issued, 125 were personal use permits and 57 were subsistence permits, 175 returned their permits and 94 indicated that they fished. Includes 38 Tolovana River Pike permits. Includes 6 households that obtained personal use salmon permits and 2 switched to whitefish permits and 4 switched to Tolavana River Pike permits.
- v Of the 5 permits issued for the Tanana River in Delta, 4 were personal use permits one was subsistence, 5 returned their permits and 5 indicated that they fished.
- w Other includes residents of Anchorage, Cantwell, Mountain Village, and the Upper Tanana River drainage villages, Dot Lake, Northway, Siana, Tanacross, and Tok who fished in the Tanana River. Of the 41 permits issued, 1 was a personal use permit and 40 were subsistence permits, 37 returned their permits and 12 indicated that they fished.
- x Test fish given away for subsistence use.

Table 2. Estimated total number of households, the sample size, the number contacted, and the percentage of the sampled households that were contacted in surveyed villages, by harvest stratum, with village and district totals, Yukon Area, 1996 a

Community	Unknown			Does Not Harvest Salmon			Light Harvester			Medium Harvester			Heavy Harvester			Community Totals		
	N	n	%C	N	n	%C	N	n	%C	N	n	%C	N	n	%C	N	n	%C
Hooper Bay	6	5	100.0	73	7	6	74	22	17	24	23	19	0	0	-	177	57	47
Scammon Bay	3	3	66.6	24	5	4	50	15	13	2	2	2	0	0	-	79	25	21
Coastal District	9	8	77.5	97	12	10	124	37	30	26	25	21	0	0	-	256	82	68
Sheldon's Point	0	0	-	10	10	9	22	22	16	5	5	5	0	0	-	37	37	30
Alakanuk	2	2	100.0	51	5	3	78	23	19	5	5	3	1	1	100.0	137	36	28
Emmonak	7	4	3	74	21	21	64	32	32	16	16	16	0	0	-	161	73	72
Kolik	4	4	100.0	25	5	4	56	17	15	12	12	10	1	1	100.0	98	39	34
District 1	13	10	90.0	160	41	37	220	94	82	38	38	34	2	2	100.0	433	185	164
Mountain Village	2	2	100.0	40	5	5	88	27	25	9	9	8	1	0	-	140	43	40
Pilkas Point	2	2	100.0	8	8	5	20	20	20	4	4	4	0	0	-	34	34	31
St. Mary's	0	0	-	48	9	8	56	17	15	20	20	19	0	0	-	124	46	42
Pilot Station	1	1	100.0	43	13	9	48	24	24	2	2	2	0	0	-	94	40	36
Marshall	0	0	-	14	5	5	43	13	11	8	8	7	0	0	-	65	26	23
District 2	5	5	100.0	153	40	32	255	101	95	43	43	40	1	0	-	457	189	172
Russian Mission	0	0	-	23	6	4	29	9	7	4	4	4	1	1	0	57	20	15
Holy Cross	0	0	-	20	5	3	40	12	10	4	4	4	0	0	-	64	21	17
Shageluk	0	0	-	21	5	5	11	5	3	7	7	6	3	3	100.0	42	20	17
District 3	0	0	-	64	16	12	80	26	20	15	15	14	4	3	75.0	163	61	49
Anvik	0	0	-	18	18	15	16	16	15	4	4	4	0	0	-	38	38	34
Grayling	0	0	-	26	5	5	27	8	4	10	10	9	1	1	100.0	64	24	19
Kallag	0	0	-	13	5	5	31	8	8	8	8	8	3	3	100.0	51	24	24
Nulato	5	3	100.0	41	7	7	37	9	9	10	10	10	0	0	-	87	29	29
Koyukuk	0	0	-	22	5	3	18	5	5	2	2	2	1	1	100.0	43	13	11
Galena	4	4	3	69	8	5	51	15	14	10	10	10	3	3	100.0	137	40	35
Ruby	2	2	100.0	37	6	2	16	5	5	4	4	4	4	4	100.0	63	21	17
Huslia	0	0	-	46	5	3	12	5	5	9	9	8	3	3	100.0	70	22	19
Hughes	1	1	100.0	16	14	87.5	4	4	4	5	5	5	1	1	100.0	27	27	25
Allakaket	8	5	3	20	5	4	13	5	5	8	8	8	2	2	100.0	51	25	22
Alaina	2	2	100.0	6	6	4	2	2	1	3	3	2	0	0	-	13	13	8
Bettles	1	1	100.0	20	20	16	4	4	4	2	2	1	0	0	-	27	27	22
District 4	23	18	77.7	334	106	83	221	86	79	75	75	71	18	18	100.0	671	303	265
Tanana	8	5	4	62	19	16	14	7	5	13	13	12	13	13	100.0	110	57	50
Rampart	0	0	-	9	9	8	7	7	6	11	11	11	1	1	0	28	28	25
Stevens Village	0	0	-	12	12	8	10	10	8	5	5	3	2	2	100.0	29	29	21
Birch Creek	0	0	-	12	12	10	3	0	0	0	0	0	0	0	-	15	12	10
Beaver	1	1	100.0	19	15	15	10	10	9	3	3	2	2	2	100.0	35	35	29
Fort Yukon	12	5	5	122	12	12	46	14	14	18	18	17	5	5	100.0	203	54	53
Venile	3	3	66.6	34	5	5	10	5	4	5	5	5	3	3	100.0	55	21	19
Chalkyitsik	0	0	-	23	23	20	4	4	4	2	2	2	0	0	-	29	29	26
District 5	24	14	12	293	111	94	104	57	50	57	57	52	26	25	96.1	504	265	233
Survey Totals	74	55	47	1,101	326	268	1,004	401	356	254	253	232	51	50	48	2,484	1,085	951

a Total number of households (N), the sample size (n), the number of households contacted (C), and the percent of the sampled households that were contacted (%C). Dashes indicate indefinable values.

Table 3. Estimated number of subsistence fishing households in surveyed villages, by harvest stratum, with village and district totals, Yukon Area, 1996. a

Community	Unknown			Does Not Harvest Salmon			Light Harvester			Medium Harvester			Heavy Harvester			Combined				
	N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	Total	Est. CI(95%) Total (+/-)		
Hooper Bay Scammon Bay Coastal District	6	5	0.6	0.1	73	6	0.5	0.2	74	17	0.7	0.0	24	19	0.6	0.0	177	47	109	34
	3	2	1.0	0.0	24	4	0.5	0.2	50	13	0.7	0.1	2	2	1.0	0.0	79	21	55	16
	9	7	0.7	0.0	97	10	0.5	0.1	124	30	0.7	0.0	26	21	0.7	0.0	256	68	164	37
	0	0	-	-	10	9	0.3	0.0	22	16	0.8	0.0	5	5	0.6	0.0	37	30	24	2
Sheldon's Point Alakanuk Emmonak Kolik	2	2	0.5	0.0	51	3	0.0	0.0	78	19	0.5	0.1	5	3	1.0	0.0	137	28	52	15
	7	3	0.3	0.2	74	21	0.1	0.0	64	32	0.5	0.0	16	16	0.8	0.0	161	72	62	13
	4	4	0.5	0.0	25	4	0.2	0.2	56	15	0.5	0.1	12	10	0.9	0.0	98	34	50	16
	13	9	0.4	0.1	160	37	0.1	0.0	220	82	0.6	0.0	38	34	0.9	0.0	433	164	189	26
District 1																				
Mountain Village Pikas Point St. Mary's	2	2	1.0	0.0	40	5	0.0	0.0	88	25	0.7	0.0	9	8	1.0	0.0	140	40	74	13
	2	2	0.5	0.0	8	5	0.6	0.1	20	20	0.6	0.0	4	4	1.0	0.0	34	31	22	2
	0	0	-	-	48	8	0.1	0.1	56	15	0.6	0.1	20	19	1.0	0.0	124	42	63	15
	1	1	1.0	-	43	9	0.4	0.1	48	24	0.6	0.0	2	2	1.0	0.0	94	36	52	14
Pilot Station Marshall District 2	0	0	-	-	14	5	0.0	0.0	43	11	0.9	0.0	8	7	0.8	0.0	65	23	46	6
	5	5	0.8	0.0	153	32	0.2	0.0	255	95	0.7	0.0	43	40	1.0	0.0	457	172	258	26
Russian Mission Holy Cross Shageluk District 3	0	0	-	-	23	4	0.5	0.2	29	7	0.8	0.1	4	4	0.7	0.0	57	15	40	13
	0	0	-	-	20	3	0.3	0.3	40	10	0.7	0.1	4	4	1.0	0.0	64	17	39	15
	0	0	-	-	21	5	0.2	0.1	11	3	0.3	0.2	7	6	0.6	0.0	42	17	16	9
	0	0	-	-	64	12	0.3	0.1	80	20	0.7	0.0	15	14	0.8	0.0	163	49	95	23
Anvik Grayling Kallag District 4	0	0	-	-	18	15	0.2	0.0	16	15	0.8	0.0	4	4	1.0	0.0	38	34	20	1
	0	0	-	-	26	5	0.4	0.2	27	4	0.5	0.2	10	9	1.0	0.0	64	19	35	18
	0	0	-	-	13	5	0.4	0.1	27	8	0.8	0.1	8	8	1.0	0.0	51	24	40	7
	5	3	0.3	0.2	41	7	0.2	0.1	31	9	0.8	0.0	10	10	1.0	0.0	87	29	51	14
Nulato Koyukuk Galena District 5	0	0	-	-	22	3	0.0	0.0	18	5	0.4	0.2	2	2	1.0	0.0	43	11	10	7
	4	3	0.6	0.1	69	5	0.2	0.1	51	14	0.8	0.0	10	10	0.8	0.0	137	35	71	27
	2	2	0.0	0.0	37	2	0.0	0.0	16	5	0.2	0.1	4	4	0.5	0.0	63	17	8	5
	0	0	-	-	46	3	0.0	0.0	12	5	0.2	0.1	9	8	0.7	0.0	70	19	10	3
Huslia Hughes Allakaket District 6	1	1	0.0	-	16	14	0.0	0.0	4	4	0.2	0.0	5	5	0.8	0.0	27	25	5	0
	8	3	0.0	0.0	20	4	0.2	0.2	13	5	0.4	0.1	8	8	0.7	0.0	51	22	18	10
	2	1	0.0	-	6	4	0.0	0.0	2	1	0.0	-	3	2	0.5	0.2	13	8	2	1
	1	1	0.0	-	20	16	0.0	0.0	4	4	0.5	0.0	2	1	0.0	-	27	22	2	0
Bettles District 7	23	14	0.2	0.0	334	83	0.1	0.0	221	79	0.6	0.0	75	71	0.8	0.0	671	265	272	39
Tanana Rampart Stevens Village District 8	8	4	0.7	0.1	62	16	0.3	0.1	14	5	0.6	0.1	13	12	0.7	0.0	110	50	55	13
	0	0	-	-	9	8	0.1	0.0	7	6	0.5	0.0	11	11	0.7	0.0	28	25	13	1
	0	0	-	-	12	8	0.0	0.0	10	8	0.5	0.0	5	3	0.0	0.0	29	21	7	1
	0	0	-	-	12	10	0.0	0.0	3	0	-	-	0	0	-	-	15	10	1	0
Birch Creek Beaver Fort Yukon District 9	1	1	1.0	-	19	15	0.0	0.0	10	9	0.6	0.0	3	2	1.0	0.0	35	29	13	1
	12	5	0.6	0.1	122	12	0.1	0.1	46	14	0.5	0.1	18	17	0.7	0.0	203	53	69	27
	3	2	0.0	0.0	34	5	0.0	0.0	10	4	0.0	0.0	5	5	0.8	0.0	55	19	6	0
	0	0	-	-	23	20	0.1	0.0	4	4	0.0	0.0	2	2	1.0	0.0	29	26	4	1
Venetie Chalkylik District 10	24	12	0.6	0.1	293	94	0.2	0.0	104	50	0.5	0.0	57	52	0.7	0.0	504	233	169	31
Survey Totals	74	47	0.5	0.0	1,101	268	0.2	0.0	1,004	356	0.6	0.0	254	232	0.8	0.0	2,484	951	1,146	76

a The total number of households (N), the number of households contacted (n), standard error (SE), and includes 95 percent confidence interval, CI (95%). Dashes indicate indefinable values.

Table 4. Estimated number of people in households in surveyed villages, by harvest stratum, with village and district totals, Yukon Area, 1996. a

Community	Unknown			Does Not Harvest Salmon			Light Harvester			Medium Harvester			Heavy Harvester			Combined				
	N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	Total	Est CI(95%) (+/-)		
Hooper Bay Scammon Bay Coastal District	6	5	4.0	0.4	73	6	3.6	1.3	74	16	4.8	0.5	24	18	5.3	0.3	177	45	777	208
	3	2	3.0	1.1	24	4	3.2	0.9	50	13	6.3	0.6	2	2	7.0	0.0	79	21	416	79
	9	7	3.7	0.4	97	10	3.6	1.0	124	29	5.4	0.4	26	20	5.5	0.2	256	66	1,193	223
	0	0	-	-	10	9	4.1	0.2	22	15	3.9	0.2	5	5	5.6	0.0	37	29	156	11
	2	2	3.0	0.0	51	2	6.0	3.9	78	18	4.2	0.5	5	3	4.3	0.9	137	26	672	401
	7	3	2.6	0.6	74	21	3.7	0.5	64	31	5.6	0.2	16	16	4.8	0.0	161	71	735	82
	4	4	5.7	0.0	25	4	5.2	1.9	56	15	5.4	0.5	12	10	6.1	0.2	98	34	538	111
	13	9	3.7	0.3	160	36	4.7	1.3	220	79	4.9	0.2	38	34	5.3	0.1	433	160	2,101	424
	2	2	4.0	0.0	40	5	3.8	0.6	88	25	4.4	0.3	9	8	5.6	0.1	140	40	605	84
Mountain Village Pitkas Point St. Mary's Pilot Station Marshall District 2	2	2	1.0	0.0	8	5	2.2	0.3	20	20	4.0	0.0	4	4	6.0	0.0	34	31	124	5
	0	0	-	-	48	8	3.0	0.4	56	15	4.2	0.5	20	19	4.4	0.1	124	42	468	73
	1	1	5.0	-	43	9	4.2	0.8	48	24	5.3	0.4	2	2	5.0	0.0	94	36	453	79
	0	0	-	-	14	5	3.0	1.1	43	11	4.0	0.5	8	7	4.8	0.1	65	23	257	52
	5	5	3.0	0.0	153	32	3.5	0.3	255	95	4.5	0.2	43	40	4.9	0.0	457	172	1,907	147
	0	0	-	-	23	4	6.2	1.7	29	6	7.3	1.6	4	4	4.2	0.0	57	14	378	120
	0	0	-	-	20	3	4.0	0.9	40	10	3.0	0.5	4	4	5.2	0.0	64	17	221	54
	0	0	-	-	21	3	6.0	1.0	11	3	4.6	0.7	7	6	3.6	0.3	42	15	217	47
	0	0	-	-	64	10	5.5	0.7	80	19	4.8	0.6	15	14	4.2	0.1	163	46	816	140
Anvik Grayling Kallag Nulato Koyukuk Galena Ruby Huslia Hughes Allakaket	0	0	-	-	18	14	1.8	0.1	16	15	3.1	0.1	4	4	3.5	0.0	38	33	98	7
	0	0	-	-	26	5	6.0	1.3	27	4	3.2	0.4	10	9	3.8	0.2	1	1	4.0	-
	0	0	-	-	13	3	3.6	0.7	27	8	3.6	0.5	8	7	3.5	0.2	3	3	6.6	0.0
	5	3	2.3	0.2	41	7	3.0	0.5	31	9	3.4	0.5	10	10	3.5	0.0	0	0	-	-
	0	0	-	-	22	3	1.3	0.3	18	4	2.2	0.6	2	2	3.5	0.0	1	1	2.0	-
	4	3	4.6	0.6	69	5	3.2	0.7	51	14	3.6	0.3	10	10	3.1	0.0	3	3	4.0	0.0
	2	2	4.5	0.0	37	2	2.5	1.4	16	5	2.2	0.4	4	4	3.2	0.0	4	4	3.2	0.0
	0	0	-	-	46	3	3.3	0.8	12	5	3.0	1.1	9	8	4.5	0.2	3	3	3.0	0.0
	1	1	2.0	-	16	14	2.4	0.1	4	4	2.5	0.0	5	5	3.6	0.0	1	1	2.0	-
8	3	2.0	0.4	20	4	2.5	0.8	13	5	2.2	0.5	8	8	3.6	0.0	2	2	5.5	0.0	
Bettles District 4 Tanana Rampart Stevens Village Birch Creek Beaver Fort Yukon Venette Chalkyitsik District 5	2	1	8.0	-	6	4	1.7	0.2	2	1	1.0	-	3	2	4.0	0.5	0	0	-	-
	1	1	3.0	-	20	16	2.0	0.1	4	4	1.2	0.0	2	1	4.0	-	0	0	-	-
	23	14	3.3	0.2	334	80	3.0	0.2	221	78	3.1	0.1	75	70	3.7	0.0	18	18	4.1	0.0
	8	4	1.5	0.3	62	13	2.8	0.4	14	5	3.2	0.6	13	12	3.2	0.1	13	13	3.3	0.0
	0	0	-	-	9	8	1.7	0.1	7	6	2.6	0.2	11	11	2.8	0.0	1	0	-	-
	0	0	-	-	12	8	1.8	0.4	10	8	2.6	0.2	5	3	3.0	0.7	2	2	1.5	0.0
	0	0	-	-	12	10	2.2	0.1	3	0	-	-	0	0	-	-	0	0	-	-
	1	1	1.0	-	19	15	2.2	0.1	10	9	3.1	0.1	3	2	2.5	0.2	2	2	1.0	0.0
	12	5	1.4	0.1	122	10	2.3	0.4	46	14	3.0	0.4	18	17	3.7	0.1	5	5	3.2	0.0
3	2	3.0	1.1	34	5	2.0	0.5	10	4	3.5	0.6	5	5	2.8	0.0	3	3	4.6	0.0	
0	0	-	-	23	20	2.4	0.1	4	4	3.5	0.0	2	2	4.5	0.0	0	0	-	-	
24	12	1.6	0.2	293	89	2.3	0.2	104	50	3.0	0.2	57	52	3.3	0.0	26	25	3.1	0.0	
Survey Totals	74	47	2.8	0.1	1,101	257	3.3	0.2	1,004	350	4.3	0.1	254	230	4.2	0.0	51	48	3.6	0.0
																	2,484	932	9,436	572

a The total number of households (N), the number of households contacted (n), standard error (SE), and includes 95 percent confidence interval, CI (95%). Dashes indicate indefinable values.

Table 5. Primary fishing gear used to harvest salmon by surveyed subsistence fishing households, Yukon Area, 1996.

Community	Total Number of Households	Number of Households Surveyed	Number of Households that Subsistence Fished	Primary Gear Used			
				Set Gillnets	Drift Gillnets	Fish Wheels	Hook and Line
Hooper Bay	177	47 (26.5%)	31 (65.9%)	30 (96.7%)	0 (0.0%)	0 (0.0%)	1 (3.2%)
Scammon Bay	79	21 (26.5%)	16 (76.1%)	16 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Coastal District	256	68 (26.5%)	47 (69.1%)	46 (97.8%)	0 (0.0%)	0 (0.0%)	1 (2.1%)
Sheldon's Point	37	30 (81.0%)	19 (63.3%)	16 (88.8%)	2 (11.1%)	0 (0.0%)	0 (0.0%)
Alakanuk	137	28 (20.4%)	16 (57.1%)	10 (68.6%)	5 (33.3%)	0 (0.0%)	0 (0.0%)
Emmonak	161	72 (44.7%)	35 (48.6%)	9 (25.7%)	26 (74.2%)	0 (0.0%)	0 (0.0%)
Kotlik	98	34 (34.6%)	21 (61.7%)	10 (47.6%)	10 (47.6%)	0 (0.0%)	1 (4.7%)
District 1	433	164 (37.8%)	91 (55.4%)	45 (50.5%)	43 (48.3%)	0 (0.0%)	1 (1.1%)
Mountain Village	140	40 (28.5%)	28 (70.0%)	2 (7.1%)	26 (92.8%)	0 (0.0%)	0 (0.0%)
Pitkas Point	34	31 (91.1%)	20 (64.5%)	2 (10.5%)	16 (84.2%)	0 (0.0%)	1 (5.2%)
St. Mary's	124	42 (33.8%)	30 (71.4%)	3 (10.0%)	25 (83.3%)	0 (0.0%)	2 (6.6%)
Pilot Station	94	36 (38.2%)	22 (61.1%)	9 (40.9%)	13 (59.0%)	0 (0.0%)	0 (0.0%)
Marshall	65	23 (35.3%)	16 (69.5%)	5 (31.2%)	11 (68.7%)	0 (0.0%)	0 (0.0%)
District 2	457	172 (37.6%)	116 (67.4%)	21 (18.2%)	91 (79.1%)	0 (0.0%)	3 (2.6%)
Russian Mission	57	15 (26.3%)	11 (73.3%)	5 (50.0%)	5 (50.0%)	0 (0.0%)	0 (0.0%)
Holy Cross	64	17 (26.5%)	12 (70.5%)	7 (58.3%)	5 (41.6%)	0 (0.0%)	0 (0.0%)
Shageluk	42	17 (40.4%)	9 (52.9%)	9 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
District 3	163	49 (30.0%)	32 (65.3%)	21 (67.7%)	10 (32.2%)	0 (0.0%)	0 (0.0%)
Anvik	38	34 (89.4%)	19 (55.8%)	9 (47.3%)	4 (21.0%)	5 (26.3%)	0 (0.0%)
Grayling	64	19 (29.6%)	14 (73.6%)	9 (64.2%)	3 (21.4%)	1 (7.1%)	0 (0.0%)
Katag	51	24 (47.0%)	20 (83.3%)	3 (15.0%)	7 (35.0%)	10 (50.0%)	0 (0.0%)
Nulato	87	29 (33.3%)	21 (72.4%)	5 (23.8%)	8 (38.0%)	7 (33.3%)	1 (4.7%)
Koyukuk	43	11 (25.5%)	5 (45.4%)	2 (40.0%)	2 (40.0%)	1 (20.0%)	0 (0.0%)
Galena	137	35 (25.5%)	26 (74.2%)	14 (53.8%)	2 (7.6%)	10 (38.4%)	0 (0.0%)
Ruby	63	17 (26.9%)	6 (35.2%)	5 (83.3%)	0 (0.0%)	1 (16.6%)	0 (0.0%)
Huslia	70	19 (27.1%)	8 (42.1%)	8 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Hughes	27	25 (92.5%)	5 (20.0%)	4 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Allakaket	51	22 (43.1%)	11 (50.0%)	10 (90.9%)	0 (0.0%)	0 (0.0%)	1 (9.0%)
Alatna	13	8 (61.5%)	1 (12.5%)	1 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Bettles	27	22 (81.4%)	2 (9.0%)	2 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
District 4	671	265 (39.4%)	138 (62.0%)	72 (52.5%)	26 (18.9%)	35 (25.5%)	2 (1.4%)
Tanana	110	50 (45.4%)	31 (62.0%)	12 (38.7%)	0 (0.0%)	19 (61.2%)	0 (0.0%)
Rampart	28	25 (89.2%)	12 (48.0%)	9 (75.0%)	0 (0.0%)	3 (25.0%)	0 (0.0%)
Stevens Village	29	21 (72.4%)	6 (28.5%)	6 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Birch Creek	15	10 (66.6%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Beaver	35	29 (82.8%)	11 (37.9%)	11 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Fort Yukon	203	53 (26.1%)	30 (56.6%)	16 (53.3%)	0 (0.0%)	14 (46.6%)	0 (0.0%)
Venette	55	19 (34.5%)	6 (31.5%)	6 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Chalkyitsik	29	26 (89.6%)	4 (15.3%)	3 (75.0%)	0 (0.0%)	1 (25.0%)	0 (0.0%)
District 5	504	233 (46.2%)	100 (42.9%)	63 (63.0%)	0 (0.0%)	37 (37.0%)	0 (0.0%)
Survey Totals	2,484	951 (38.2%)	524 (55.0%)	268 (51.6%)	170 (32.7%)	72 (13.8%)	7 (1.3%)

Table 6. Subsistence salmon harvest estimates and corresponding confidence intervals for surveyed villages, Yukon Area, 1996. a

Community	Catch Strata Combined		Chinook Salmon		Summer Chum Salmon		Fall Chum Salmon		Coho Salmon	
	Total Households	Households Contacted	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)
Hooper Bay	177	47	1,127	488	15,870	5,568	392	560	92	80
Scammon Bay	79	18	1,238	1,539	6,365	4,041	0	0	0	0
Coastal District	256	65	2,365	1,618	22,235	6,879	392	560	92	80
Sheldon's Point	37	29	450	159	2,634	514	21	22	138	58
Alakanuk	137	27	682	426	6,171	3,308	100	103	103	115
Emmonak	161	72	373	88	5,218	893	808	641	268	212
Kotlik	98	33	806	318	6,214	2,452	1,797	1,374	1,181	1,165
District 1	433	161	2,291	562	20,237	4,245	2,726	1,520	1,690	1,191
Mountain Village	140	40	1,315	462	9,285	2,098	1,047	925	48	24
Pitkas Point	34	31	762	24	1,619	172	603	24	691	0
St Mary's	124	39	1,766	803	6,736	1,533	658	299	292	135
Pilot Station	94	34	1,811	1,047	6,079	3,548	298	223	1,233	1,691
Marshall	65	22	2,126	880	4,431	1,709	2,212	2,105	958	1,052
District 2	457	166	7,780	1,653	28,150	4,722	4,818	2,330	3,222	1,997
Russian Mission	57	15	2,709	1,291	3,554	3,030	587	717	255	286
Holy Cross	64	17	3,953	1,942	1,700	1,385	1,814	1,891	0	0
Shageluk	42	16	121	41	6,114	802	305	92	189	215
District 3	163	48	6,783	2,333	11,368	3,427	2,706	2,024	444	358
Anvik	38	34	768	61	185	19	457	31	44	11
Grayling	64	19	1,036	906	587	246	1,759	1,805	236	123
Kallag	51	23	994	31	31	3	1,049	319	298	100
Nulato	87	29	1,461	559	1,003	483	2,299	1,010	149	227
Koyukuk	43	11	402	239	41	0	2,458	2,138	476	179
Galena	137	35	2,770	1,498	3,902	3,144	6,620	3,725	780	121
Ruby	63	17	557	551	2,016	551	561	0	376	41
Huslia	70	19	67	36	2,372	398	298	182	18	10
Hughes	27	25	54	0	1,411	0	274	0	51	0
Alakaket	51	22	82	3	4,668	210	961	0	39	0
Alatna	13	8	2	1	209	235	0	0	0	0
Bellies	27	22	0	0	0	0	50	0	0	0
District 4	671	264	8,193	1,955	16,425	3,277	16,786	4,782	2,467	355
Tanana	110	50	2,741	289	5,190	263	21,420	1,124	6,110	372
Rampart	28	25	1,751	406	1,188	127	896	235	5	0
Stevens Village	29	21	681	168	530	16	991	112	2	0
Birch Creek	15	10	0	0	0	0	0	0	0	0
Beaver	35	28	886	304	572	122	9	3	7	1
Fort Yukon	203	53	4,957	2,483	26	12	7,063	933	157	49
Venette	55	19	134	0	0	0	7,195	0	264	0
Chalkyitsik	29	26	30	0	0	0	1,230	406	0	0
District 5	504	232	11,180	2,557	7,506	317	38,804	1,539	6,545	375
Survey Totals	2,484	936	38,592	4,634	105,921	10,500	66,232	6,115	14,460	2,410

a. Households contacted indicates the number of households with complete harvest information used in estimating the salmon harvest, includes 95 percent confidence interval, CI (95%).

Table 7. Surveyed villages estimated chinook salmon subsistence harvest by fishing location, Yukon Area, 1996.

Villages	Coastal District	Districts			Subdistricts					River Drainages				Total by Community		
		1	2	3 a	4A b	4B	4C	5A	5B	5C	5D c	Innoko	Koyukuk		Chandalar	Porcupine d
Hooper Bay	1,127	0														1,127
Scammon Bay	1,129	109														1,238
Coastal District	2,256	109														2,365
Sheldon's Point	450															450
Alakanuk	662															662
Emmonak	373															373
Kotlik	806															806
District 1	2,291															2,291
Mountain Village	181	1,134	0													1,315
Pikias Point	60	702	0													762
St. Mary's	556	1,210	0													1,766
Pilot Station	0	1,759	52													1,811
Marshall	0	2,126	0													2,126
District 2	797	6,931	52													7,780
Russian Mission		215	2,494								0					2,709
Holy Cross		0	3,953								0					3,953
Shageluk		0	59								62					121
District 3		215	6,506								62					6,783
Anvik				768	0	0						0				768
Grayling				1,036	0	0						0				1,036
Kallag				994	0	0						0				994
Nulato				1,461	0	0						0				1,461
Koyukuk				277	125	0						0				402
Galena				379	1,271	1,120						0				2,770
Ruby				0	364	193						0				557
Huslia				0	0	0						67				67
Hughes				0	0	0						54				54
Allakaket				0	0	0						82				82
Alaina				0	0	0						2				2
Beiltes				0	0	0						0				0
District 4	4,915	1,760	1,313									205				8,193
Tanana				8									0			2,741
Rampart				0	0			46	2,547	0	140		0			1,751
Stevens Village				0	0			0	0	1,593	0		0			681
Birch Creek				0	0			0	0	0	681		0			0
Beaver				0	0			0	0	0	0		0			0
Fort Yukon				0	0			0	0	26	860		0			886
Venette				0	0			0	0	0	4,854		0	103		4,957
Chalkyitsik				0	0			0	0	0	120		14			134
District 5		8						46	2,705	1,619	6,685		0			11,180
Survey Totals	2,256	3,197	7,146	4,923	1,760	1,313	46	2,705	1,619	6,685	0	62	205	14	103	0
																38,592

a Except for the Innoko River drainage.

b Except for the Koyukuk River drainage.

c Except for the Chandalar and Porcupine River drainages.

d Except for the Black River drainage.

Table 8. Surveyed villages estimated summer chum salmon subsistence harvest by fishing location, Yukon Area, 1996.

Villages	Coastal District	Districts					Subdistricts					River Drainages				Total by Community		
		1	2	3 a	4A b	4B	4C	5A	5B	5C	5D c	Innoko	Koyukuk	Chandalar	Porcupine d		Black	
Hooper Bay	15,870	0																15,870
Scammon Bay	5,254	1,111																6,365
Coastal District	21,124	1,111																22,235
Sheldon's Point	2,634																	2,634
Alakanuk	6,171																	6,171
Emmonak	5,218																	5,218
Kolik	6,214																	6,214
District 1	20,237																	20,237
Mountain Village	1,832	7,453	0															9,285
Pitkas Point	188	1,431	0															1,619
St. Mary's	2,023	4,713	0															6,736
Pilot Station	0	5,995	84															6,079
Marshall	0	4,431	0															4,431
District 2	4,043	24,023	84															28,150
Russian Mission													0					3,554
Holy Cross													0					1,700
Shageluk													4,947					6,114
District 3													4,947					11,368
Anvik							185	0	0					0				185
Grayling							587	0	0					0				587
Katlag							31	0	0					0				31
Nulato							1,003	0	0					0				1,003
Koyukuk							41	0	0					0				41
Galena							0	3,325	577					0				3,902
Ruby							0	1,194	822					0				2,016
Huslia							0	0	0					2,372				2,372
Hughes							0	0	0					1,411				1,411
Allakaket							0	0	0					4,668				4,668
Alatna							0	0	0					209				209
Bettles							0	0	0					0				0
District 4							1,847	4,519	1,399					8,660				16,425
Tanana																		5,190
Rampart																		1,188
Stevens Village																		530
Birch Creek																		0
Beaver																		572
Fort Yukon																		26
Venette																		0
Chalkyitsik																		0
District 5																		7,506
Survey Totals	21,124	25,391	24,185	6,343	0	1,847	4,519	1,399	455	4,755	1,201	1,095	0	4,947	8,660	0	0	105,921

a Except for the Innoko River drainage.
b Except for the Koyukuk River drainage.
c Except for the Chandalar and Porcupine River drainages.
d Except for the Black River drainage.

Table 9. Surveyed villages estimated fall chum salmon subsistence harvest by fishing location, Yukon Area, 1996.

Villages	Coastal District	Districts			Subdistricts					River Drainages				Total by Community			
		1	2	3 a	4A b	4B	4C	5A	5B	5C	5D c	Innoko	Koyukuk		Chandalar	Porcupine d	Black
Hooper Bay	392																392
Scammon Bay	0																0
Coastal District	392																392
Sheldon's Point	0	21															21
Alakanuk	0	100															100
Emmonak	0	808															808
Kolik	5	1,792															1,797
District 1	5	2,721															2,726
Mountain Village		30	1,017														1,047
Pikias Point		100	503														603
St. Mary's		129	529														658
Pilot Station		0	298														298
Marshall		0	2,212														2,212
District 2		259	4,559														4,818
Russian Mission				587									0				587
Holy Cross				1,814									0				1,814
Shageluk				152									153				305
District 3				2,553									153				2,706
Anvik					457	0	0						0				457
Grayling					1,759	0	0						0				1,759
Kallag					1,049	0	0						0				1,049
Nulato					2,299	0	0						0				2,299
Koyukuk					1,966	492	0						0				2,456
Galena					0	3,380	3,240						0				6,620
Ruby					0	250	311						0				561
Huslia					0	0	0						298				298
Hughes					0	0	0						274				274
Alakaket					0	0	0						961				961
Alatna					0	0	0						0				0
Bellies					0	0	0						50				50
District 4				7,530	4,122	3,551							1,583				16,786
Tanana								7,648	13,772	0	0			0	0	0	21,420
Rampart								0	331	565	0			0	0	0	896
Stevens Village								0	0	0	991			0	0	0	991
Birch Creek								0	0	0	0			0	0	0	0
Beaver								0	0	0	9			0	0	0	9
Fort Yukon								0	0	0	4,682			0	2,381	0	7,063
Venette								0	0	0	0			7,195	0	0	7,195
Chalkyitsik								0	0	0	250			0	0	980	1,230
District 5								7,648	14,103	565	5,932			7,195	2,381	980	38,804
Survey Totals	397	2,980	4,559	2,553	0	7,530	4,122	3,551	7,648	14,103	565	5,932	0	153	1,583	2,381	66,232

a Except for the Innoko River drainage.

b Except for the Koyukuk River drainage.

c Except for the Chandalar and Porcupine River drainages.

d Except for the Black River drainage.

Table 10. Surveyed villages estimated coho salmon subsistence harvest by fishing location, Yukon Area, 1996.

Villages	Coastal District	Districts			Subdistricts							River Drainages				Total by Community	
		1	2	3 a	4A b	4B	4C	5A	5B	5C	5D c	Innoko	Koyukuk	Chandalar	Porcupine d		Black
Hooper Bay	92																92
Scammon Bay	0																0
Coastal District	92																92
Sheldon's Point	0	138															138
Alakanuk	0	103															103
Ermonak	0	268															268
Kolik	5	1,176															1,181
District 1	5	1,685															1,690
Mountain Village		19	29														48
Pitkas Point		100	591														691
St. Mary's		88	204														292
Pilot Station		0	1,233														1,233
Marshall		0	958														958
District 2		207	3,075														3,222
Russian Mission				255													255
Holy Cross				0									0				0
Shageluk				0									189				189
District 3				255									189				444
Anvik					44	0	0							0			44
Grayling					236	0	0							0			236
Kaltag					298	0	0							0			298
Nulato					149	0	0							0			149
Koyukuk					476	0	0							0			476
Galena					0	325	455							0			780
Ruby					0	226	150							0			376
Huslia					0	0	0						18				18
Hughes					0	0	0						51				51
Allakaket					0	0	0						39				39
Alatna					0	0	0						0				0
Bettles					0	0	0						0				0
District 4					1,203	551	605							108			2,467
Tanana								3,816	2,294	0	0				0		6,110
Rampart								0	0	5	0				0		5
Stevens Village								0	0	0	2				0		2
Birch Creek								0	0	0	0				0		0
Beaver								0	0	0	0				0		7
Fort Yukon								0	0	0	0				0		157
Venetie								0	0	0	0				105		264
Chalkyitsik								0	0	0	0				264		0
District 5								3,816	2,294	5	61				105		6,545
Survey Totals	97	1,892	3,015	255	0	1,203	551	605	3,816	2,294	5	61	0	189	108	264	14,460

a Except for the Innoko River drainage.

b Except for the Koyukuk River drainage.

c Except for the Chandalar and Porcupine River drainages.

d Except for the Black River drainage.

Table 11 Estimated or reported subsistence harvest of pink salmon and other select miscellaneous fish species by surveyed villages, Yukon Area, 1996 a

Community	Harvest Strata Combined Total Households Households Contacted	Estimated Subsistence Harvest with Corresponding Confidence Intervals (Expanded to Estimate Survey Village Harvest)										Reported Numbers of Miscellaneous Fish Species, (Not Expanded)								
		Pink Salmon				Whitefish b				Pike		Sheefish		Burbot	Lamprey	Tomcod	Grayling	Sucker	Arctic Char	Blackfish
		Estimated Total		CI(95%) (+/-)		Estimated Total		CI(95%) (+/-)		Estimated Total		CI(95%) (+/-)								
		Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)											
Hooper Bay	177	3,212	2,075	666	620	3,458	2,116	864	842	69	120	22	0	1,685	0	0	4	16,680		
Scannnon Bay	79	305	399	324	238	935	526	892	583	27	31	50	0	1,665	0	0	0	1,400		
Coastal District	256	3,517	2,113	990	664	4,393	2,181	1,756	1,024	96	124	72	0	3,350	0	0	4	18,080		
Sheldon's Point	37	262	129	591	195	1,824	421	155	57	1,544	372	123	0	5	0	0	0	11,090		
Alakanuk	137	35	52	488	367	2,178	1,367	259	197	738	611	12	0	50	0	0	0	4,760		
Ermonak	181	48	0	1,392	438	4,505	1,222	1,348	481	2,338	805	458	0	1,099	0	0	0	58,982		
Kotlik	98	100	0	1,445	536	3,941	2,073	915	369	6,469	3,003	84	0	25	0	0	0	12,810		
District 1	433	443	139	3,916	808	12,448	2,800	2,677	640	11,089	3,190	677	0	1,179	0	0	0	87,642		
Mountain Village	140	611	573	1,479	798	1,547	1,157	1,132	507	577	222	497	189	25	380	0	10	12,978		
Pikas Point	34	280	96	1,339	28	550	0	433	0	407	0	872	110	0	16	0	15	11,480		
St. Mary's	124	42	27	3,541	3,201	1,493	1,096	5,229	3,390	656	434	600	689	0	37	0	0	1,350		
Pilot Station	94	0	0	1,617	762	170	165	489	191	442	266	210	30	0	0	0	0	910		
Marshall	65	0	0	2,054	1,978	1,068	1,328	2,499	1,144	1,180	975	629	900	0	7	1	7	5,040		
District 2	457	933	582	10,030	3,922	4,828	2,082	9,782	3,619	3,262	1,122	2,808	1,918	25	440	1	32	31,758		
Russian Mission	57	0	0	107	163	82	143	583	758	45	51	7	12	0	7	0	3	70		
Holy Cross	84	140	175	172	203	80	0	95	67	38	32	12	0	0	30	0	0	140		
Shageluk	42	40	0	1,118	647	578	318	212	69	93	25	32	0	0	5	10	10	0		
District 3	163	180	175	1,397	698	740	349	890	764	176	65	51	12	0	42	10	13	210		
Anvik	38	0	0	193	22	211	5	117	5	50	5	14	0	0	45	0	0	0		
Grayling	64	4	2	243	205	0	0	264	129	149	63	7	2,700	0	41	61	7	7,702		
Katag	51	0	0	10	0	247	333	40	45	35	28	0	0	0	7	0	19	0		
Nulato	87	0	0	336	228	1,226	1,349	90	85	91	67	19	0	0	250	1	106	0		
Koyukuk	43	0	0	585	589	175	0	163	179	81	59	50	0	0	0	0	0	0		
Galeana	137	52	0	3,192	1,507	2,129	607	113	27	288	167	190	0	0	92	63	28	360		
Ruby	63	3	0	496	275	80	0	53	52	35	10	2	0	0	20	0	0	0		
Huslia	70	0	0	253	95	435	139	598	189	124	38	9	0	0	20	3	0	0		
Hughes	27	0	0	648	548	4,665	2,184	105	32	115	49	9,631	0	0	59	0	0	0		
Allakaket	51	22	0	1,180	995	677	527	375	331	780	395	4	0	0	141	20	1	0		
Alatna	13	0	0	40	0	360	0	45	50	6	0	0	0	0	33	0	0	0		
Bettles	27	0	0	0	0	0	0	6	2	8	0	1	0	0	57	0	0	0		
District 4	262	59	2	7,178	2,025	10,205	2,714	1,969	460	1,760	449	9,927	2,700	0	765	148	161	8,062		
Tanana	110	0	0	2,557	430	2,972	822	108	30	969	116	10	0	0	47	2	0	0		
Rampart	28	0	0	22	1	40	0	1	0	9	0	1	0	0	0	0	0	0		
Stevens Village	29	0	0	23	10	13	10	75	21	5	2	0	0	0	0	1	0	0		
Birch Creek	15	0	0	84	47	36	28	132	63	20	0	0	0	0	0	0	0	0		
Beaver	35	0	0	39	11	3	2	48	34	3	9	3	0	0	27	0	0	0		
Fort Yukon	203	0	0	859	977	889	1,079	1,256	710	512	415	44	0	0	28	29	0	0		
Venette	55	0	0	2	0	0	0	5	7	0	0	1	0	0	292	0	0	0		
Chalkyitsik	29	0	0	2	1	1,121	168	279	19	25	5	60	0	0	23	0	0	0		
District 5	504	0	0	3,588	1,070	5,074	1,367	1,904	715	1,540	431	119	0	0	417	32	0	0		
Survey Totals	2,484	5,132	2,204	27,099	4,712	37,688	5,128	18,978	3,983	17,923	3,442	13,654	4,630	4,554	1,664	191	210	145,752		

a Households contacted indicates the number of households with complete harvest information used in estimating the harvests. includes 95 percent confidence interval, CI (95%)
b Large whitefish are considered those 4 pounds or larger and small whitefish are less than 4 pounds.

Table 12. Estimated number of salmon used for subsistence purposes and corresponding confidence intervals for surveyed villages, Yukon Area, 1996 a

Community	Harvest Strata Combined		Chinook Salmon		Summer Chum Salmon		Fall Chum Salmon		Coho Salmon	
	Total Households	Households Contacted b	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)
Hooper Bay	177	44	1,034	455	17,473	7,056	394	646	51	34
Scammon Bay	79	19	1,393	1,432	6,703	3,365	0	0	0	0
Coastal District	256	63	2,427	1,503	24,176	7,817	394	646	51	34
Sheldon's Point	37	27	377	102	2,524	414	382	293	175	84
Alakanuk	137	25	1,036	422	5,992	3,286	117	103	159	123
Emmonak	161	70	1,061	258	10,277	2,174	1,460	571	777	412
Kotlik	98	30	834	301	6,996	2,508	2,211	1,097	1,237	815
District 1	433	152	3,308	588	25,789	4,689	4,170	1,275	2,348	926
Mountain Village	140	39	1,517	446	11,700	2,766	765	438	82	49
Pitkas Point	34	30	509	13	1,484	214	628	27	698	2
St Mary's	124	41	1,723	696	8,723	2,500	774	413	289	166
Pilot Station	94	32	2,240	1,235	6,359	3,767	328	200	1,478	1,868
Marshall	65	22	2,336	838	4,627	1,652	2,111	2,031	1,010	1,054
District 2	457	164	8,325	1,707	32,893	5,556	4,606	2,129	3,557	2,169
Russian Mission	57	14	2,843	1,499	3,397	3,046	587	717	261	283
Holy Cross	64	17	3,279	1,475	1,239	611	1,224	1,350	0	0
Shageluk	42	14	189	90	6,434	1,301	371	85	312	393
District 3	163	45	6,311	2,106	11,070	3,368	2,182	1,531	573	484
Anvik	38	33	838	67	9,964	917	477	31	52	14
Grayling	64	19	1,073	544	3,863	932	1,137	921	230	122
Kaltag	51	21	843	184	73,056	53,089	850	164	229	9
Niilato	87	29	1,719	826	22,010	13,861	2,766	1,345	149	227
Koyukuk	43	9	456	354	8,004	13,956	2,903	3,811	548	322
Galena	137	35	2,730	1,498	30,049	19,328	6,543	3,407	831	146
Ruby	63	16	1,016	549	2,896	1,064	669	78	376	41
Huslia	70	19	106	50	2,732	388	342	195	18	10
Hughes	27	24	85	54	1,860	1,141	210	103	63	54
Allakaket	51	22	120	89	4,478	204	1,344	432	65	39
Alatna	13	8	9	3	160	153	3	3	0	0
Bettles	27	22	6	1	1	0	56	0	0	0
District 4	671	257	9,001	1,932	159,073	59,861	17,300	5,391	2,561	445
Tanana	110	46	2,503	177	6,171	327	34,649	2,179	5,910	372
Rampart	28	24	1,031	190	1,148	85	415	86	5	0
Stevens Village	29	21	712	148	551	45	1,022	139	2	0
Birch Creek	15	9	19	8	0	0	0	0	0	0
Beaver	35	28	472	72	508	152	9	3	7	1
Fort Yukon	203	48	3,435	1,100	28	18	8,374	1,364	165	73
Venette	55	19	343	210	136	246	7,175	0	366	184
Chalkyitsik	29	26	55	3	0	0	1,231	406	0	0
District 5	504	221	8,570	1,162	8,542	447	52,875	2,608	6,455	422
Survey Totals	2,484	902	37,942	3,878	281,543	60,900	81,527	6,692	15,545	2,485

a Includes salmon retained from commercial harvests for subsistence use as estimated through the survey.

b Households contacted indicates the number of households with complete subsistence use information used in estimating the number of salmon used for subsistence purposes, includes 95 percent confidence interval, CI (95%).

Table 13. Estimated number of salmon retained from commercial harvests for subsistence use (commercial-related) and corresponding confidence intervals for surveyed villages, Yukon Area, 1996 ^a

Community	Harvest Strata Combined		Chinook Salmon		Summer Chum Salmon		Fall Chum Salmon		Coho Salmon	
	Total Households	Households Contacted	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)
Hooper Bay	177	47	0	0	0	0	0	0	0	0
Scammon Bay	79	19	273	472	182	241	0	0	0	0
Coastal District	256	66	273	472	182	241	0	0	0	0
Sheldon's Point	37	30	12	7	39	21	0	0	6	3
Alakanuk	137	28	0	0	29	48	0	0	0	0
Emmonak	161	72	102	110	214	107	65	88	6	8
Kotlik	98	34	85	112	178	219	19	31	102	169
District 1	433	164	199	157	460	249	84	93	114	169
Mountain Village	140	40	7	6	102	81	74	116	0	0
Pitkas Point	34	31	3	0	35	1	2	0	2	1
St. Mary's	124	39	14	20	165	155	24	12	0	0
Pilot Station	94	35	71	99	74	40	10	2	0	0
Marshall	65	22	223	336	251	204	0	0	0	0
District 2	457	167	318	351	627	272	110	117	2	1
Russian Mission	57	15	11	7	21	35	0	0	0	0
Holy Cross	64	17	0	0	250	0	0	0	0	0
Shageluk	42	17	0	0	0	0	0	0	0	0
District 3	163	49	11	7	271	35	0	0	0	0
Anvik	38	34	0	0	80,296	12,149	0	0	0	0
Grayling	64	19	0	0	61,620	64,702	0	0	0	0
Kallag	51	23	6	2	106,880	62,403	0	0	0	0
Nulato	87	29	0	0	51,471	30,265	586	1,045	0	0
Koyukuk	43	11	0	0	0	0	0	0	0	0
Galena	137	35	184	186	52,393	31,658	0	0	0	0
Ruby	63	17	0	0	0	0	0	0	0	0
Huslia	70	19	0	0	0	0	0	0	0	0
Hughes	27	25	0	0	0	0	0	0	0	0
Allakaket	51	22	0	0	0	0	0	0	0	0
Alatna	13	8	0	1	0	0	0	0	0	0
Beiltes	27	22	0	0	0	0	0	0	0	0
District 4	671	264	190	186	352,660	100,729	586	1,045	0	0
Tanana	110	50	83	0	965	0	15,463	4,053	400	0
Rampart	28	25	0	0	0	0	0	0	0	0
Stevens Village	29	21	0	0	0	0	0	0	0	0
Birch Creek	15	10	0	0	0	0	0	0	0	0
Beaver	35	29	0	0	0	0	0	0	0	0
Fort Yukon	203	53	0	0	0	0	0	0	0	0
Venetie	55	19	0	0	0	0	0	0	0	0
Chalkyitsik	29	26	0	0	0	0	0	0	0	0
District 5	504	233	83	0	965	0	15,463	4,053	400	0
Survey Totals	2,484	943	1,074	637	355,165	100,730	16,243	4,189	516	169

^a Households contacted indicates the number of households with complete commercial retention information used in estimating the number of salmon retained from commercial harvests, includes 95 percent confidence interval, CI (95%).

Table 14. Estimated number of households with dogs, numbers of dogs, and corresponding confidence intervals for surveyed villages, Yukon Area, 1996. a

Community	Harvest Strata Combined		Number of Households with Dogs		Number of Dogs	
	Total Households	Households Contacted	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)
Hooper Bay	177	45	99	34	219	107
Scammon Bay	79	21	60	14	187	75
Coastal District	256	66	159	37	406	131
Sheldon's Point	37	29	26	2	85	12
Alakanuk	137	26	92	50	187	152
Emmonak	161	71	116	15	178	27
Kotlik	98	34	64	17	232	139
District 1	433	160	298	55	682	208
Mountain Village	140	38	65	23	260	143
Pitkas Point	34	31	16	1	77	1
St. Mary's	124	42	73	20	171	52
Pilot Station	94	36	56	14	117	36
Marshall	65	23	41	11	419	262
District 2	457	170	251	36	1,044	305
Russian Mission	57	14	51	10	201	135
Holy Cross	64	17	49	15	99	23
Shageluk	42	15	34	12	213	127
District 3	163	46	134	22	513	187
Anvik	38	33	22	2	78	6
Grayling	64	19	50	15	148	67
Kaltag	51	21	33	11	102	49
Nulato	87	29	78	10	305	84
Koyukuk	43	10	17	7	117	111
Galena	137	35	107	31	312	119
Ruby	63	17	39	35	96	39
Huslia	70	19	65	4	193	52
Hughes	27	24	10	1	70	24
Allakaket	51	22	18	9	113	9
Alatna	13	8	10	1	11	3
Bettles	27	22	19	2	62	13
District 4	671	259	468	54	1,607	214
Tanana	110	47	53	15	472	32
Rampart	28	25	20	1	46	6
Stevens Village	29	21	17	3	67	24
Birch Creek	15	10	4	1	13	5
Beaver	35	29	25	2	47	4
Fort Yukon	203	50	143	36	422	110
Venetie	55	19	43	12	155	26
Chalkyitsik	29	26	20	1	67	7
District 5	504	227	325	42	1,289	121
Survey Totals	2,484	928	1,635	105	5,541	500

a Households contacted indicates the number of households with complete numbers of dogs information, includes 95 percent confidence interval, CI (95%).

Table 15. Estimated subsistence and commercial harvests of salmon fed to dogs and corresponding confidence intervals for surveyed villages, Yukon Area, 1996. a

Community	Harvest Strata Combined		Summer Chum Salmon Fed to Dogs				Fall Chum Salmon Fed to Dogs				Coho Salmon Fed to Dogs			
			Subsistence		Commercial		Subsistence		Commercial		Subsistence		Commercial	
	Total	Households Contacted	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)
Hooper Bay	177	45	0	0	0	0	0	0	0	0	0	0	0	0
Scammon Bay	79	21	0	0	0	0	0	0	0	0	0	0	0	0
Coastal District	256	66	0	0	0	0	0	0	0	0	0	0	0	0
Sheldon's Point	37	29	81	49	0	0	0	0	0	0	0	0	0	0
Alakanuk	137	25	1,376	2,385	0	0	0	0	0	0	0	0	0	0
Emmonak	161	71	270	0	0	0	0	0	0	0	0	0	0	0
Kotlik	98	33	120	96	0	0	250	449	0	0	38	67	0	38
District 1	433	158	1,847	2,388	0	0	250	449	0	0	38	67	0	38
Mountain Village	140	38	669	306	0	0	0	0	0	0	0	0	0	0
Pikas Point	34	31	0	0	0	0	450	0	0	0	550	0	0	550
St. Mary's	124	42	172	188	0	0	0	0	0	0	87	34	0	87
Pilot Station	94	36	150	207	0	0	4	5	0	0	4	5	0	4
Marshall	65	23	469	793	0	0	1,270	1,676	0	0	782	920	0	782
District 2	457	170	1,460	895	0	0	1,724	1,677	0	0	1,423	920	0	1,423
Russian Mission	57	14	0	0	0	0	0	0	0	0	0	0	0	0
Holy Cross	64	17	0	0	250	0	0	0	0	0	0	0	0	0
Shageluk	42	15	3,308	847	0	0	0	0	0	0	0	0	0	0
District 3	163	48	3,308	847	250	0	0	0	0	0	0	0	0	0
Anvik	33	33	10	0	9,722	916	0	0	0	0	0	0	0	0
Grayling	64	19	333	206	3,126	932	44	27	0	0	125	0	0	125
Katag	51	21	0	0	48,972	36,577	250	0	0	0	0	0	0	0
Nulato	87	29	656	584	20,474	14,054	400	0	0	0	138	227	0	138
Koyukuk	43	9	0	0	7,890	13,955	2,090	3,220	0	0	2,090	0	0	0
Gallena	137	34	1,426	211	27,647	18,554	2,297	2,449	0	0	655	580	0	655
Ruby	63	17	2,864	1,076	0	0	553	0	0	0	376	41	0	376
Huslia	70	19	2,068	412	100	0	0	0	0	0	1	0	0	1
Hughes	27	24	1,832	1,150	0	0	82	41	0	0	0	0	0	0
Alakaket	51	22	3,365	0	0	0	15	0	0	0	29	0	0	29
Alatna	13	8	90	101	0	0	0	0	0	0	0	0	0	0
Bettles	27	22	0	0	0	0	40	0	0	0	0	0	0	0
District 4	671	257	12,644	1,758	117,931	45,564	5,771	4,046	0	0	1,324	624	0	1,324
Tanana	110	48	7,824	352	695	0	21,401	1,119	11,386	1,066	4,791	176	400	5,191
Rampart	28	24	499	86	0	0	60	0	0	0	0	0	0	0
Stevens Village	29	21	524	41	0	0	781	5	0	0	0	0	0	0
Birch Creek	15	10	0	0	0	0	0	0	0	0	0	0	0	0
Beaver	35	29	587	22	0	0	300	0	0	0	0	0	0	0
Fort Yukon	203	50	26	12	0	0	7,301	1,203	0	0	21	9	0	21
Venebe	55	19	0	0	0	0	6,592	0	0	0	764	0	0	764
Chalkyitsik	29	26	0	0	0	0	1,015	407	0	0	0	0	0	0
District 5	504	227	9,460	366	695	0	37,450	1,693	11,386	1,066	5,566	176	400	5,966
Survey Totals	2,484	924	28,719	3,232	118,876	45,564	45,195	4,717	11,386	1,066	8,351	1,128	400	8,751

a. Households contacted indicates the number of households with complete subsistence and commercial-related harvests of salmon fed to dogs information, includes 95 percent confidence interval, CI (95%)

Table 16. Summary of responses from surveyed households which indicated that their subsistence salmon needs were not met in 1996.

Response Summary Category	Number of Responses	Percent of Total
Due to Mother Nature, i.e., high water/early freeze-up	11	4.7
Working in another occupation	34	14.8
No gear - boat, net, motor, gas	24	10.4
No helper to harvest or process fish	5	2.2
Busy doing other things	33	14.2
Medical reasons or elderly	21	9.1
Poor run of fish	12	5.2
Out of town	12	5.2
Will buy or be given fish	4	1.7
Not enough fish caught	24	10.4
Miscellaneous reasons, includes "No reason given"	15	6.5
Still fishing	1	4.0
Department Fishing Regulations/Restrictions	6	2.6
Didn't fish - normally don't use fish	24	10.4
Not enough available to share/barter	4	1.7
TOTALS a	230	100%

- a A total of 951 households were surveyed in 1996, of which 230 households (24.2 percent) indicated their subsistence salmon needs were not met.

Table 17. Reported subsistence and personal use fish harvested under the authority of a permit, listed by permit area, Yukon Area, 1996. a

Permit Fishing Area	Number of Permits Returned that Fished				Reported Harvest										
	Permit		Percent Returned	Returned	Chinook	Summer Chum	Fall Chum	Coho	Whitefish	Sheefish	Burbot	Pike	Suckers	Grayling	
	Type	Issued													
Subsistence Use															
Yukon River near Haul Road Bridge	SY	47	45	96%	31	1,157	3,475	2,727	42	441	6	0	7	0	0
Yukon River near Circle and Eagle	SE	86	84	98%	51	3,458	528	20,861	1	550	61	1	36	636	274
Tanana River Subdistrict 6A	SA	26	24	92%	19	183	1,305	17,237	4,822	464	2	44	149	42	0
Tanana River Subdistrict 6B	SB	105	96	91%	59	968	6,138	17,439	8,934	792	14	18	212	7	0
Tanana River Upstream of Subdistrict 6C	SU	42	39	93%	15	0	10	97	0	2,693	0	10	75	104	26
Kantishna River Subdistrict 6A	SK	5	5	100%	4	26	33	1,694	1,137	57	1	6	17	27	0
Tolovana River Pike	ST	74	64	86%	24	0	0	0	0	389	41	26	1,616	141	15
Subsistence Permit Subtotals		385	357	93%	203	5,792	11,489	60,055	14,936	5,386	125	105	2,112	957	315
Personal Use															
Tanana River Subdistrict 6C	PC	129	125	97%	73	215	905	356	198	33	2	0	1	7	0
Tanana River Whitefish	PW	4	4	100%	3	0	0	0	0	55	0	0	0	192	0
Personal Use Permit Subtotals		133	129	97%	76	215	905	356	198	88	2	0	1	199	0
Permit Totals		518	486	94%	279	6,007	12,394	60,411	15,134	5,474	127	105	2,113	1,156	315

a Includes 1996 permit information received as of April 10, 1997.

b Includes 32 households that were issued permits for two different areas, including 21 Minto households who were issued both Tolovana River drainage (ST) pike and Subdistrict 6-B (SB) salmon permits.

c Includes one household that fished in two different permit areas.

Table 18. Reported subsistence and personal use fish harvested under the authority of a permit, listed by community of residence, by drainage, Yukon Area, 1996. a

Community	Harvest by Primary Drainage	Number of				Reported Harvest										
		Permits		Percent Returned	Returned that Fished	Chinook	Summer Chum	Fall Chum	Coho	Whitefish	Sheefish	Burbot	Pike	Sucker	Grayling	
		Issued	Returned													
Subsistence Use																
Central	Yukon River	7	7	100%	5	131	53	132	0	0	0	0	0	0	0	0
Circle	Yukon River	11	11	100%	8	1,781	271	5,308	0	353	30	1	0	0	0	0
Eagle	Yukon River	56	55	98%	32	1,092	105	14,916	1	192	29	0	36	635	274	0
FNSB b	Yukon River	46	43	93%	30	1,166	2,958	2,727	42	401	6	0	7	0	0	0
	Tolovana River c	40	38	95%	11	0	0	0	0	3	0	11	79	0	0	4
	Tanana River	19	18	95%	12	97	392	5,736	2,314	52	0	6	10	9	0	3
	FNSB Subtotal		105	99	94%	53	1,263	3,350	8,463	2,356	456	6	17	96	9	7
Healy	Tanana River	9	9	100%	4	0	33	1,384	1,011	164	2	2	4	4	0	0
Manley	Tanana River	24	22	92%	17	194	1,619	10,662	2,462	378	2	33	137	33	0	0
Minto	Tolovana River	32	25	78%	13	0	0	0	0	386	41	15	1,537	141	11	0
	Tanana River	46	39	85%	20	523	1,421	4,381	1,223	380	12	15	208	0	0	0
Nenana	Minto Subtotal	78	64	82%	33	523	1,421	4,381	1,223	766	53	30	1,745	141	11	0
	Tanana River	43	41	95%	29	557	4,534	13,215	7,239	327	0	6	2	3	0	0
	Kantishna River	3	3	100%	3	26	33	992	644	52	1	6	17	27	0	0
Stevens Village	Nenana Subtotal	46	44	96%	32	583	4,567	14,207	7,883	379	1	12	19	30	0	0
	Yukon River	3	3	100%	2	68	0	0	0	0	0	0	0	0	0	0
	Yukon River	7	7	100%	3	157	60	505	0	5	2	0	0	1	0	0
Villages (UTV) c	Tanana River	39	36	92%	14	0	10	97	0	2,693	0	10	75	104	23	0
	UTV Subtotal	46	43	93%	17	157	70	602	0	2,698	2	10	75	105	23	0
Subsistence Permit Subtotals		385	357	93%	203	5,792	11,489	60,055	14,936	5,386	125	105	2,112	957	315	0
Personal Use																
Delta Junction	Tanana River	4	4	100%	4	0	2	5	3	54	0	0	0	191	0	0
FNSB b	Tanana River	125	121	97%	71	215	903	348	195	34	2	0	1	8	0	0
Nenana	Tanana River	3	3	100%	1	0	0	3	0	0	0	0	0	0	0	0
Other e	Tanana River	1	1	100%	0	0	0	0	0	0	0	0	0	0	0	0
Personal Use Permit Subtotals		133	129	97%	76	215	905	356	198	88	2	0	1	199	0	0
Permit Totals		518 f	486	94%	279 g	6,007	12,394	60,411	15,134	5,474	127	105	2,113	1,156	315	0

a Includes 1996 permit information received as of April 10, 1997.

b Fairbanks North Star Borough (FNSB) includes residents from the communities of College, Eielson AFB, Ester, Fairbanks, Ft. Wainwright, North Pole, Salcha, and Two Rivers.

c Includes subsistence permits for residents from the communities of Cantwell and Mountain Village.

d Upper Tanana Villages (UTV) include residents from the communities of Delta Junction, Dot Lake, Northway, Slana, Tanacross, and Tok.

e Other personal use permits include residents from the community of Anchorage.

f Includes 32 households that were issued permits for two different areas, including 21 Minto households who were issued both Tolovana River drainage pike and Subdistrict 6-B salmon permits.

g Includes one household that fished in two different permit areas.

Table 19. Household and dog information reported by subsistence and personal use permits issued and returned, listed by community of residence, Yukon Area, 1996. a

Community	Permit Information b			Reported Household Information (Based on Permits Issued)							Whole Salmon Fed to Dogs (Based on Permits Returned)			
	Permits		Percent Returned	Numbers of Permits Returned that Fished	Number of People	Number of Fishermen	Number of Households with Dogs	Number of Dogs	Households Indicating Feeding Whole Salmon to Dogs	Number of Households Who Put Whole Salmon up for Dogs	Number of Whole Salmon Fed to Dogs			
	Issued	Returned												
Subsistence Use														
Central	7	7	100%	5	16	12	6	14	2	2	170			
Circle	11	11	100%	8	22	20	10	65	6	5	4,691			
Eagle	56	55	98%	32	142	90	37	214	26	14	9,009			
FNSB c	103	97	94%	53	278	106	48	417	28	18	12,609			
Healy	9	9	100%	4	33	19	7	96	5	2	551			
Manley	24	22	92%	17	59	23	22	429	20	9	9,162			
Minto	78	64	82%	33	189	50	35	316	29	7	5,103			
Nenana	46	44	96%	32	122	43	37	483	29	12	16,165			
Stevens Village	3	3	100%	2	11	3	3	7	1	0	0			
Upper Tanana Villages d	46	43	93%	17	135	62	27	166	13	2	475			
Other e	2	2	100%	0	6	5	0	0	0	0	0			
Subsistence Permit Subtotal				385	357	93%	203	1,013	433	232	2,207	159	71	57,935
Personal Use														
Delta Junction	4	4	100%	4	8	4	-	-	-	-	-	-	-	-
FNSB c	125	121	97%	71	365	119	-	-	-	-	-	-	-	-
Nenana	3	3	100%	1	4	2	-	-	-	-	-	-	-	-
Other f	1	1	100%	0	5	1	-	-	-	-	-	-	-	-
Personal Use Permit Subtotal				133	129	97%	76	382	126	-	-	-	-	-
TOTAL				518	486	94%	279 g	1,395	559	232	2,207	159	71	57,935

a Includes 1996 permit information received as of April 10, 1997.

b Includes 32 households that were issued permits for two different areas, including 21 Minto households who were issued both Tolovana River drainage pike and Subdistrict 6-B salmon permits.

c Fairbanks North Star Borough (FNSB) includes residents from the communities of College, Eielson Air Force Base, Ester, Fairbanks, Ft. Wainwright, North Pole, Salcha, and Two Rivers.

d Upper Tanana Villages include residents from the communities of Delta Junction, Dot Lake, Northway, Slana, Tanacross, and Tok.

e Other subsistence permits include residents from the communities of Cantwell and Mountain Village.

f Other personal use permits include residents from the community of Anchorage.

g Includes one household that fished in two different permit areas.

Table 20. Salmon given away for subsistence purposes by test fish programs. Yukon Area, 1996.

Projects by Location	Primary Distribution	Chinook	Summer Chum	Fall Chum	Coho
Big Eddy Set Gill Net Sites	Emmonak	329	879	693	326
Middle Mouth Set Gill Net Sites	Kotlik	1,026	6,173	728	429
Mountain Village Drift Gill Net Sites	Mountain Village	0	0	319	228
Pilot Station Drift Gill Net Sites	Pilot Station	0	276	150	25
Fort Yukon Right Bank Test Fish Wheel	Fort Yukon	0	0	847	0
Fort Yukon Left Bank Test Fish Wheel	Fort Yukon	0	0	234	0
Tanana River Tag Deployment Fish Wheel	None	0	0	0	0
Nenana Right Bank Test Fish Wheel	None	0	0	0	0
Subtotal a		1,355	7,328	2,971	1,008
Tanana Right Bank Test Fish Wheel	Tanana	0	0	76	0
Tanana Left Bank Test Fish Wheel	Tanana	0	0	4,513	552
Nenana Left Bank Test Fish Wheel	Nenana	43	129	59	175
Subtotal b		43	129	4,648	727
Total		2,753	14,785	10,590	2,743

a Test fish given away that were not accounted for in subsistence harvest.

b Test fish given away in Tanana and Nenana that were accounted for during the surveys or on a permit.

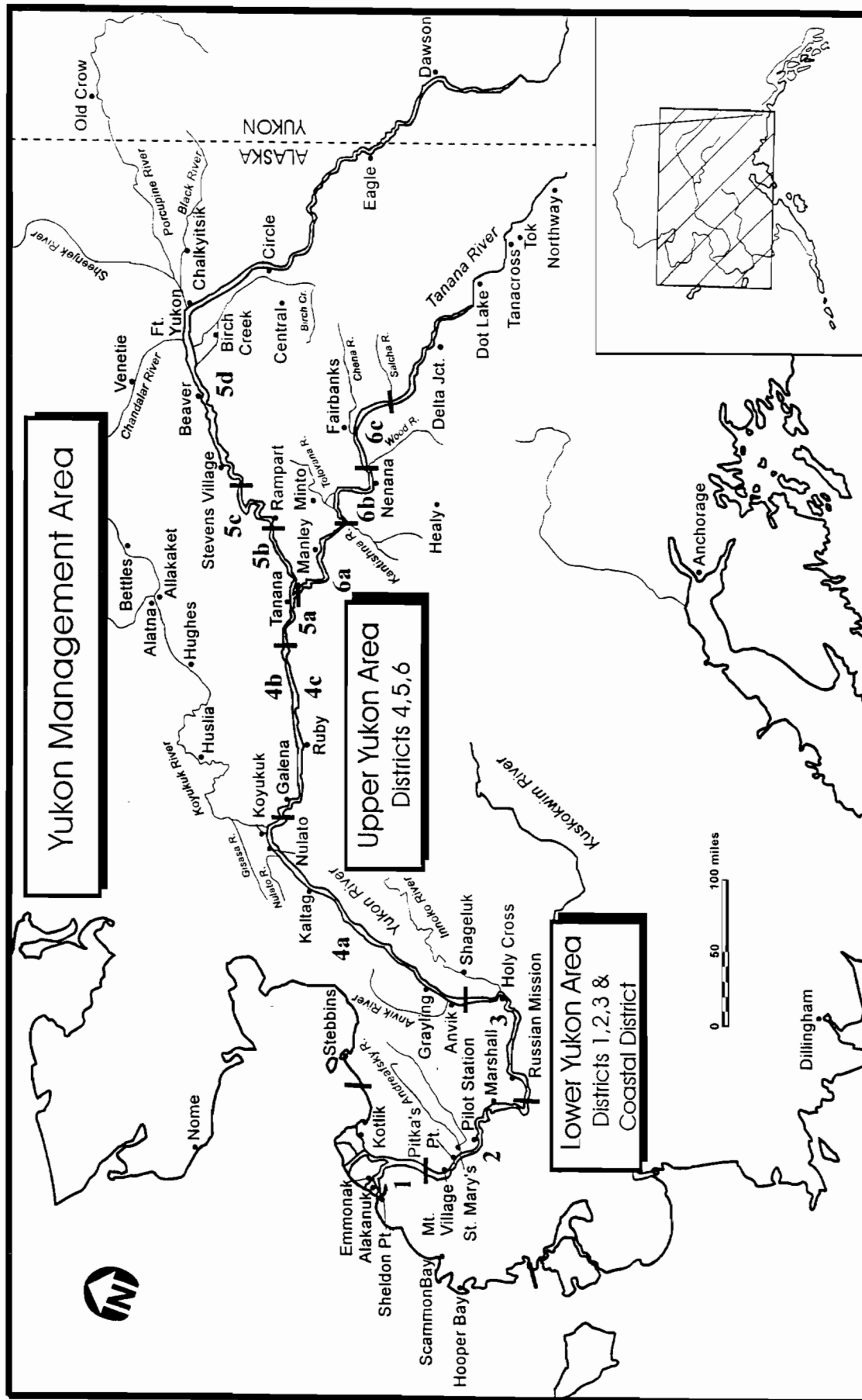
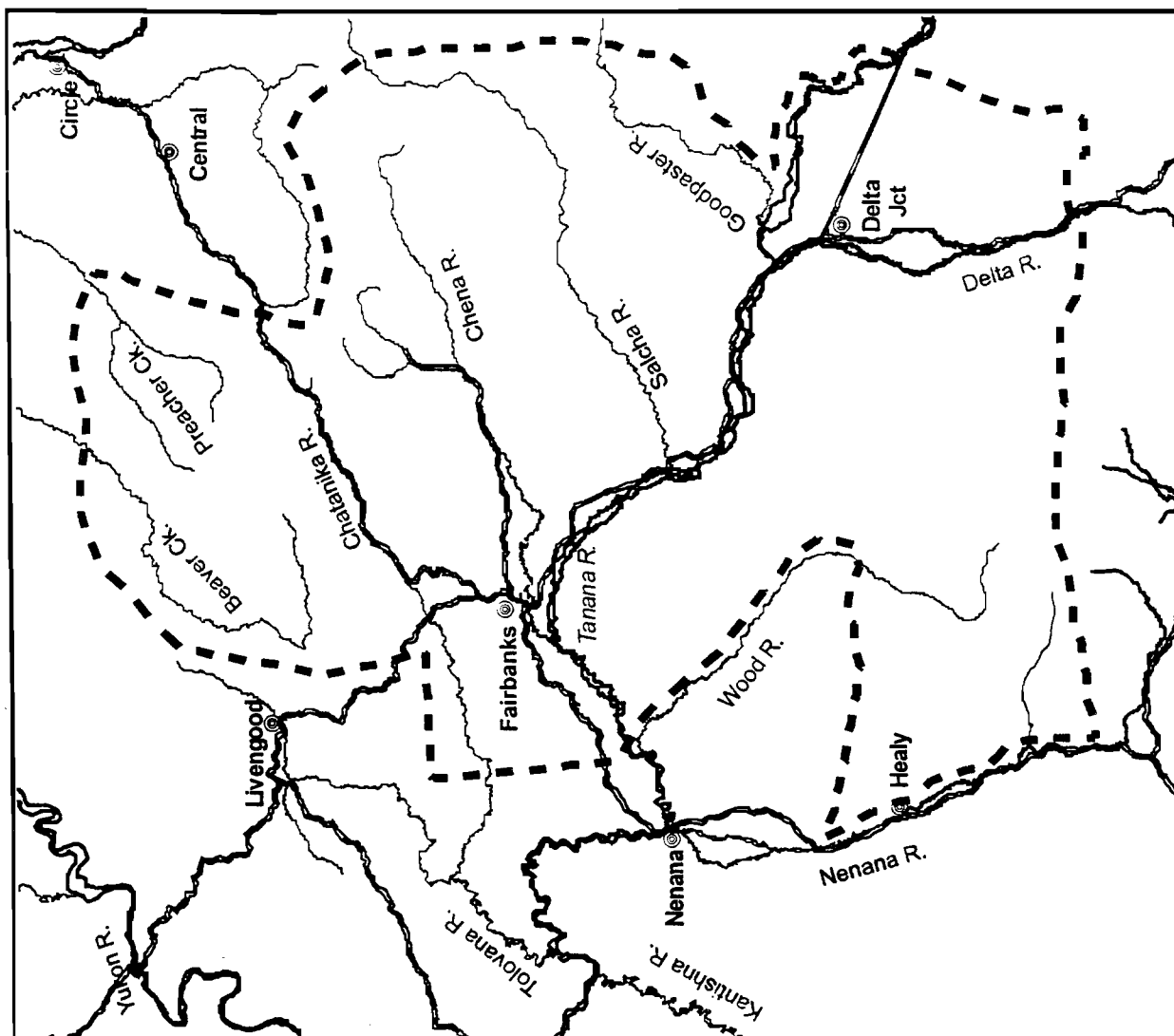


Figure 1. The Yukon Area showing communities and fishing districts, 1996.



5 AAC 99.015 JOINT BOARD NONSUBSISTENCE AREAS. (4) The Fairbanks Nonsubsistence Area is comprised of the following: within Unit 20(A) as defined by 5 AAC 92.450(20)(A) east of the Wood River drainage and south of the Rex Trail but including the upper Wood River drainage south of its confluence with Chicken Creek, within Unit 20(B) as defined by 5 AAC 92.450(20)(B) the North Star Borough and that portion of the Washington Creek drainage east of the Elliot Highway, within Unit 20(D) as defined by 5 AAC 92.450(20)(D) west of the Tanana River between its confluence's with the Johnson and Delta Rivers, west of the west bank of the Johnson River, and north and west of the Volkmar drainage, including the Goodpastor River drainage, and within Unit 25(C) as defined by 5 AAC 92.450(25)(C) the Preacher and Beaver Creek drainages.

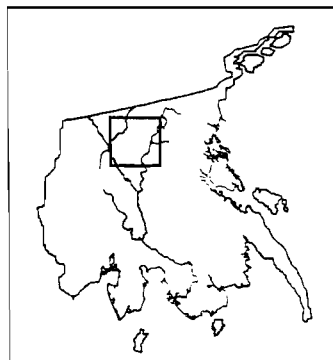
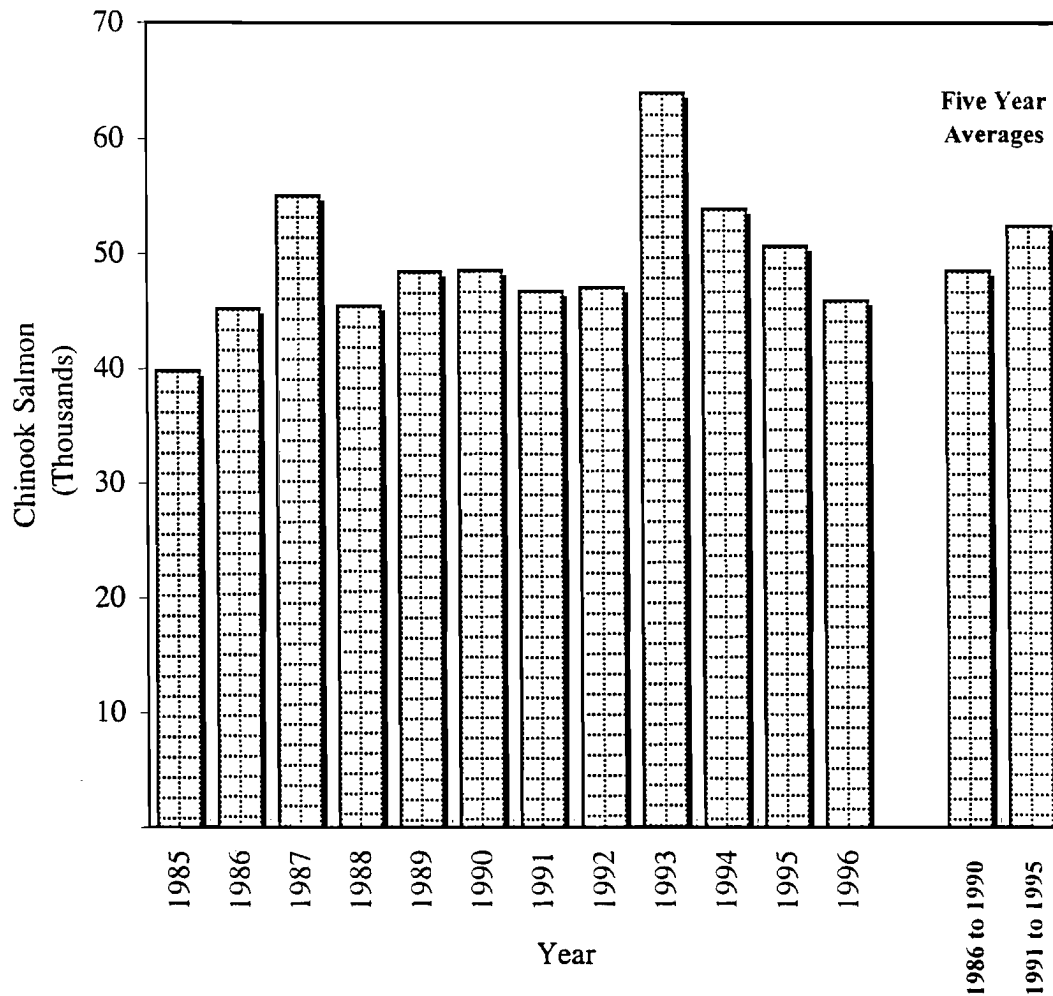


Figure 2. The Fairbanks Nonsubsistence Area, 1996.

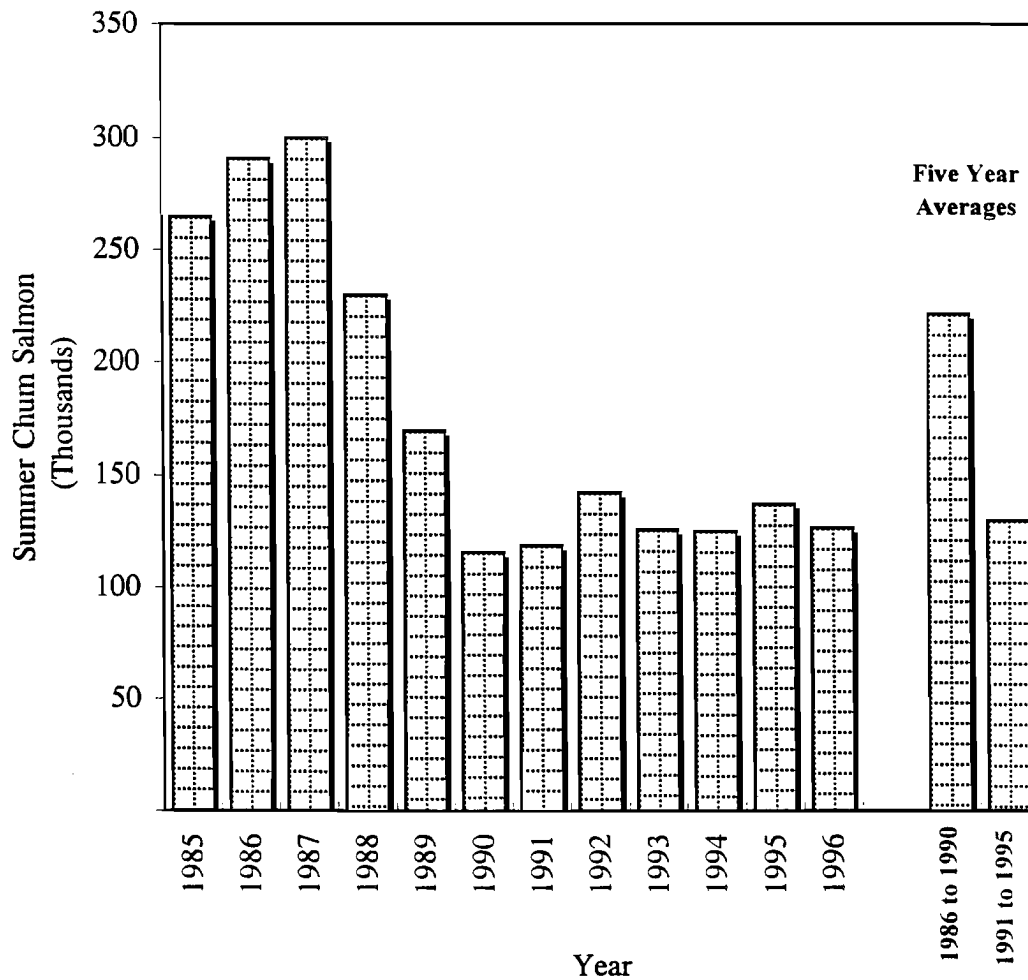
Estimated Chinook Salmon Subsistence Harvest Yukon Area



Beginning in 1988, subsistence salmon harvest estimates have been generated from a stratified random sample of village households.

Figure 3. The estimated number of chinook salmon harvested in the subsistence salmon fisheries, Yukon Area, 1985 to 1996.

Estimated Summer Chum Salmon Subsistence Harvest Yukon Area

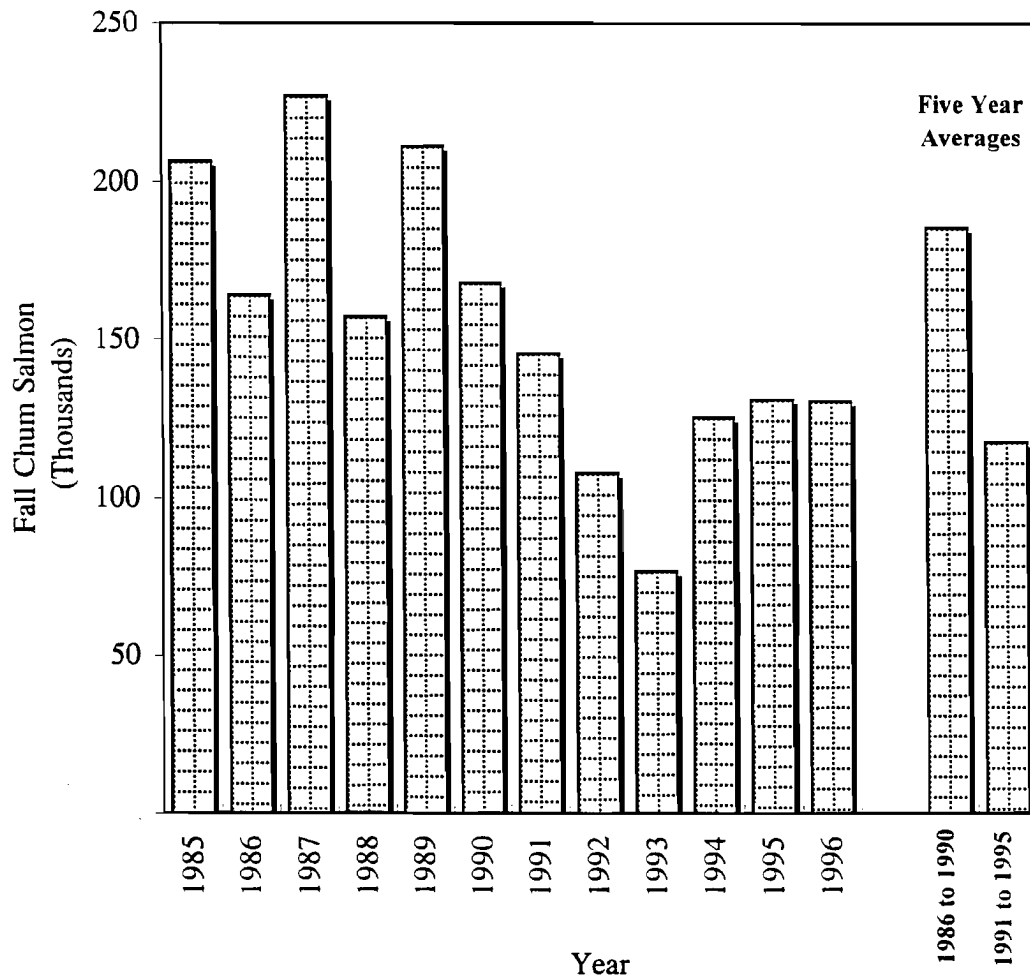


Summer chum salmon harvest estimates prior to 1988 included commercial caught summer chum salmon carcasses retained for subsistence use.

Beginning in 1988, subsistence salmon harvest estimates have been generated from a stratified random sample of village households.

Figure 4. The estimated number of summer chum salmon harvested in the subsistence salmon fisheries, Yukon Area, 1985 to 1996.

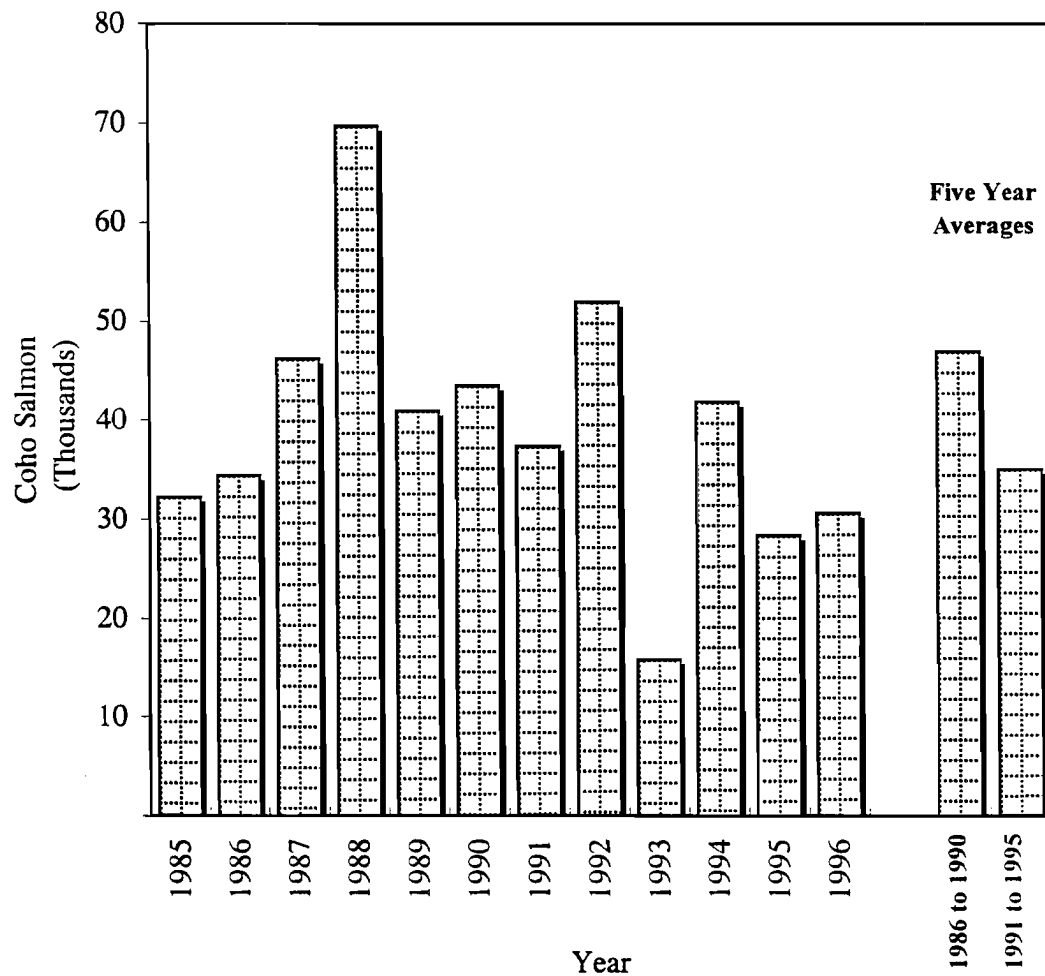
Estimated Fall Chum Salmon Subsistence Harvests Yukon Area



Beginning in 1988, subsistence salmon harvest estimates have been generated from a stratified random sample of village households.

Figure 5. The estimated number of fall chum salmon harvested in the subsistence salmon fisheries, Yukon Area, 1985 to 1996.

Estimated Coho Salmon Subsistence Harvests Yukon Area



Beginning in 1988, subsistence salmon harvest estimates have been generated from a stratified random sample of village households.

Figure 6. The estimated number of coho salmon harvested in the subsistence salmon fisheries, Yukon Area, 1985 to 1996.

APPENDIX A

DETAILED YUKON RIVER SALMON HARVEST ESTIMATES AND RELATED INFORMATION

Appendix A.1. Estimated chinook salmon subsistence harvest by residents of surveyed villages, by harvest stratum, with village and district totals, Yukon Area, 1996. a

Community	Unknown			Does Not Harvest Salmon			Light Harvester			Medium Harvester			Heavy Harvester			Combined				
	N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	Total	Est C(95%) (+/-)		
Hooper Bay Scammon Bay Coastal District	6	5	0.4	0.1	73	6	2.5	1.6	74	17	9.0	2.9	24	19	11.3	2.0	177	47	1,127	498
	3	2	2.5	1.4	24	3	6.6	6.2	50	11	20.8	15.4	2	2	15.0	0.0	79	18	1,238	1,539
	9	7	1.1	0.4	97	9	3.5	1.9	124	28	13.8	6.4	26	21	11.6	1.9	256	65	2,365	1,618
	0	0	-	-	10	9	0.5	0.1	22	15	17.9	3.6	5	5	10.0	0.0	37	29	450	159
Sheldon's Point	2	2	1.5	0.0	51	3	0.0	0.0	78	18	7.2	2.7	5	3	16.3	6.1	137	27	662	426
Alakanuk	7	3	0.0	0.0	74	21	0.5	0.4	64	32	1.7	0.5	16	16	13.5	0.0	161	72	373	88
Emmonak	4	4	0.0	0.0	25	4	0.0	0.0	56	15	4.2	2.3	12	9	30.5	7.8	98	33	806	318
Kolik	13	9	0.2	0.0	160	37	0.3	0.1	220	80	6.0	1.2	38	33	18.8	2.6	433	161	2,291	562
District 1	2	2	36.0	0.0	40	5	0.0	0.0	88	25	11.8	2.6	9	8	22.7	2.5	140	40	1,315	462
Mountain Village	2	2	0.0	0.0	8	5	2.6	1.5	20	20	27.8	0.0	4	4	46.0	0.0	34	31	762	24
Pitkas Point	0	0	-	-	48	8	8.2	7.5	56	14	9.0	3.2	20	17	43.1	3.0	124	39	1,766	803
St. Mary's	1	0	-	-	43	9	21.3	11.7	48	23	16.9	3.5	2	2	40.0	0.0	94	34	1,811	1,047
Pilot Station	0	0	-	-	14	5	0.0	0.0	43	11	44.2	10.3	8	6	27.8	6.2	65	22	2,126	880
Marshall	5	4	14.4	0.0	153	32	8.7	4.0	255	93	18.9	2.2	43	37	36.1	1.9	457	166	7,780	1,653
District 2	0	0	-	-	23	4	22.0	11.6	29	7	70.2	20.7	4	4	41.2	0.0	57	15	2,709	1,291
Russian Mission	0	0	-	-	20	3	35.3	32.5	40	10	72.1	18.6	4	4	90.5	0.0	64	17	3,953	1,942
Holy Cross	0	0	-	-	21	5	0.0	0.0	11	2	0.0	0.0	7	6	10.5	3.0	42	16	121	41
Shageluk	0	0	-	-	64	12	18.9	11.0	80	19	61.5	11.9	15	14	40.0	1.4	163	48	6,783	2,333
District 3	0	0	-	-	18	15	2.0	0.8	16	15	24.7	1.7	4	4	83.7	0.0	38	34	768	61
Anvik	0	0	-	-	26	5	25.0	17.4	27	4	6.0	3.3	10	9	22.4	2.4	64	19	1,036	906
Grayling	0	0	-	-	13	5	1.0	0.7	27	8	27.3	5.2	8	7	25.2	2.9	51	23	994	281
Kallag	5	3	0.6	0.4	41	7	3.0	2.7	31	9	20.4	8.4	10	10	70.1	0.0	87	29	1,461	559
Nulato	0	0	-	-	22	3	0.0	0.0	18	5	8.0	6.7	2	2	82.5	0.0	43	11	402	239
Koyukuk	4	3	1.0	0.5	69	5	10.0	9.6	51	14	23.4	7.4	10	10	41.2	0.0	137	35	2,770	1,498
Galena	2	2	0.0	0.0	37	2	0.0	0.0	16	5	21.2	17.5	4	4	4.5	0.0	63	17	557	551
Ruby	0	0	-	-	46	3	0.0	0.0	12	5	0.0	0.0	9	8	7.1	2.0	70	19	67	36
Huslia	1	1	0.0	-	16	14	0.0	0.0	4	4	0.7	0.0	5	5	10.2	0.0	27	25	54	0
Hughes	8	3	0.0	0.0	20	4	0.0	0.0	13	5	0.2	0.1	8	8	3.1	0.0	51	22	82	3
Allakaket	2	1	0.0	-	6	4	0.0	0.0	2	1	0.0	-	3	2	0.5	0.2	13	8	2	1
Alatna	1	1	0.0	-	20	16	0.0	0.0	4	4	0.0	0.0	2	1	0.0	-	27	22	0	0
Bettles	23	14	0.3	0.1	334	83	4.5	2.4	221	79	16.4	2.6	75	70	29.3	0.5	671	264	8,193	1,955
District 4	8	4	17.7	12.3	62	16	0.8	0.4	14	5	13.2	5.8	13	12	43.2	5.1	110	50	2,741	289
Tanana	0	0	-	-	9	8	0.0	0.0	7	6	121.6	29.6	11	11	81.7	0.0	28	25	1,751	406
Rampart	0	0	-	-	12	8	0.0	0.0	10	8	45.1	8.6	5	3	0.0	0.0	29	21	681	168
Stevens Village	0	0	-	-	12	10	0.0	0.0	3	0	-	-	0	0	-	-	15	10	0	0
Birch Creek	1	0	-	-	19	15	2.7	1.2	10	9	24.4	3.3	3	2	196.5	49.9	35	28	886	304
Beaver	12	5	14.0	7.0	122	12	5.4	4.0	46	14	52.8	25.2	18	17	75.8	5.4	203	53	4,957	2,483
Fort Yukon	3	2	0.0	0.0	34	5	0.0	0.0	10	4	0.0	0.0	5	5	26.0	0.0	55	19	134	0
Venelle	0	0	-	-	23	20	0.0	0.0	4	4	0.0	0.0	2	2	15.0	0.0	29	26	30	0
Chalkyitsik	24	11	12.9	5.4	293	94	2.6	1.6	104	50	40.0	11.4	57	52	62.7	3.3	504	232	11,180	2,557
District 5	74	45	5.4	1.7	1,101	267	4.7	1.2	1,004	349	20.5	1.9	254	227	35.2	0.9	2,484	936	38,592	4,634

a The total number of households (N), the number of households contacted (n), standard error (SE), and includes 95 percent confidence interval, CI (95%). Dashes indicate indefinable values.

Appendix A.2. Estimated summer chum salmon subsistence harvest by residents of surveyed villages, by harvest stratum, with village and district totals, Yukon Area, 1996. a

Community	Unknown				Does Not Harvest Salmon				Light Harvester				Medium Harvester				Heavy Harvester				Combined				
	N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	Total	N	n	Total	Est C(95%) (+/-)
Hooper Bay Scammon Bay Coastal District	6	5	40.4	9.9	73	6	44.5	28.2	74	17	114.1	25.8	24	19	163.7	16.5	0	0	-	-	177	47	15,870	5,568	
	3	2	100.0	28.8	24	3	21.6	20.2	50	11	105.9	40.0	2	2	125.0	0.0	0	0	-	-	79	18	6,365	4,041	
	9	7	60.3	11.6	97	9	38.9	21.8	124	28	110.8	22.3	26	21	160.8	15.2	0	0	-	-	256	65	22,235	6,879	
	0	0	-	-	10	9	10.3	2.4	22	15	101.9	11.8	5	5	57.6	0.0	0	0	-	-	37	29	2,634	514	
Sheldon's Point Alakanuk Emmonak Kolik District 1	2	2	5.0	0.0	51	3	0.0	0.0	78	18	64.5	21.6	5	3	205.0	18.2	1	1	105.0	-	137	27	6,171	3,308	
	7	3	32.6	24.6	74	21	0.2	0.2	64	32	28.6	6.5	16	16	196.2	0.0	0	0	-	-	161	72	5,218	893	
	4	4	0.0	0.0	25	4	0.0	0.0	56	15	54.2	20.6	12	9	247.8	39.4	1	1	200.0	-	98	33	6,214	2,452	
	13	9	18.4	13.2	160	37	0.8	0.1	220	80	55.2	9.5	38	33	195.5	12.7	2	2	152.5	0.0	433	161	20,237	4,245	
Mountain Village Pitkas Point St. Mary's Pilot Station Marshall District 2	2	2	94.0	0.0	40	5	0.0	0.0	88	25	76.8	11.8	9	8	259.5	28.7	1	0	-	-	140	40	9,285	2,098	
	2	2	0.0	0.0	8	5	29.2	10.9	20	20	49.3	0.0	4	4	99.5	0.0	0	0	-	-	34	31	1,819	172	
	0	0	-	-	48	8	14.2	13.0	56	14	18.7	6.7	20	17	250.1	13.9	0	0	-	-	124	39	6,736	1,533	
	1	0	-	-	43	9	74.3	39.3	48	23	57.1	13.3	2	2	70.0	0.0	0	0	-	-	94	34	6,079	3,548	
Russian Mission Holy Cross Shageluk District 3	0	0	-	-	14	5	0.0	0.0	43	11	83.7	19.6	8	6	103.8	27.8	0	0	-	-	65	22	4,431	1,709	
	5	4	37.6	0.0	153	32	26.9	11.8	255	93	59.4	6.0	43	37	202.5	10.2	1	0	-	-	457	166	28,750	4,722	
	0	0	-	-	23	4	86.7	65.3	29	7	45.5	12.3	4	4	59.2	0.0	1	0	-	-	57	15	3,554	3,030	
	0	0	-	-	20	3	34.3	31.6	40	10	18.9	7.8	4	4	64.2	0.0	0	0	-	-	64	17	1,700	1,385	
Anvik Grayling Kallag Nulato Koyukuk Galena Ruby Huslia Hughes Aliakaket District 4	0	0	-	-	21	5	0.0	0.0	11	2	0.0	0.0	7	6	366.6	58.4	3	3	1,182.3	0.0	42	16	6,114	802	
	0	0	-	-	64	12	41.9	25.4	80	19	26.0	5.9	15	14	204.0	27.2	4	3	886.8	0.0	163	48	11,368	3,427	
	0	0	-	-	18	15	0.0	0.0	16	15	4.8	0.6	4	4	26.7	0.0	0	0	-	-	38	34	185	19	
	0	0	-	-	26	5	3.0	2.6	27	4	0.0	0.0	10	9	50.8	10.4	1	1	0.0	-	64	19	587	246	
Stevens Village Birch Creek Beaver Fort Yukon Venette Chalkyitsik District 5	0	0	-	-	13	5	0.2	0.1	27	8	0.0	0.0	8	8	2.5	0.0	3	3	2.6	0.0	51	24	31	3	
	5	3	1.3	0.8	41	7	3.5	3.2	31	9	21.7	6.6	10	10	17.5	0.0	0	0	-	-	87	29	1,003	483	
	0	0	-	-	22	3	0.0	0.0	18	5	0.0	0.0	2	2	20.0	0.0	1	1	1.0	-	43	11	41	0	
	4	3	0.0	0.0	69	5	24.0	23.1	51	14	6.1	3.3	10	10	173.3	0.0	3	3	66.6	0.0	137	35	3,902	3,144	
Bettles District 5	2	2	0.0	0.0	37	2	0.0	0.0	16	5	21.2	17.5	4	4	1.2	0.0	4	4	418.0	0.0	63	17	2,016	551	
	0	0	-	-	46	3	0.0	0.0	12	5	5.4	4.1	9	8	167.5	21.9	3	3	266.6	0.0	70	19	2,372	398	
	1	1	0.0	-	16	14	0.0	0.0	4	4	51.7	0.0	5	5	240.8	0.0	1	1	0.0	-	27	25	1,411	0	
	8	3	0.0	0.0	20	4	1.2	1.1	13	5	16.0	8.0	8	8	359.7	0.0	2	2	778.5	0.0	51	22	4,668	210	
Yukon Totals	2	1	0.0	-	6	4	0.0	0.0	2	1	0.0	-	3	2	69.5	40.1	0	0	-	-	13	8	209	235	
	1	1	0.0	-	20	16	0.0	0.0	4	4	0.0	0.0	2	1	0.0	-	0	0	-	-	27	22	0	0	
	23	14	0.3	0.1	334	83	5.7	4.7	221	79	8.5	1.8	75	71	111.8	3.3	18	18	235.4	0.0	671	265	16,425	3,277	
	8	4	0.5	0.2	62	16	0.0	0.0	14	5	3.0	2.4	13	12	63.6	10.0	13	13	332.0	0.0	110	50	5,190	263	
Tanana Rampart Stevens Village Birch Creek Beaver Fort Yukon Venette Chalkyitsik District 5	0	0	-	-	9	8	0.0	0.0	7	6	38.3	9.2	11	11	83.6	0.0	1	0	-	-	28	25	1,188	127	
	0	0	-	-	12	8	0.0	0.0	10	8	1.8	0.8	5	3	0.0	0.0	2	2	255.5	0.0	29	21	530	16	
	0	0	-	-	12	10	0.0	0.0	3	0	-	-	0	0	-	-	0	0	-	-	15	10	0	0	
	1	0	-	-	19	15	0.0	0.0	10	9	14.7	1.5	3	2	58.0	20.2	2	2	125.0	0.0	35	28	572	122	
Yukon Totals	12	5	0.0	0.0	122	12	0.0	0.0	46	14	0.0	0.0	18	17	1.4	0.3	5	5	0.0	0.0	203	53	26	12	
	3	2	0.0	0.0	34	5	0.0	0.0	10	4	0.0	0.0	5	5	0.0	0.0	3	3	0.0	0.0	55	19	0	0	
	0	0	-	-	23	20	0.0	0.0	4	4	0.0	0.0	2	2	0.0	0.0	0	0	-	-	29	26	0	0	
	24	11	0.2	0.0	293	94	0.0	0.0	104	50	4.6	0.7	57	52	34.2	2.5	26	25	195.3	0.0	504	232	7,506	317	
Yukon Totals	74	45	13.2	2.7	1,101	267	11.4	3.2	1,004	349	45.3	3.8	254	228	132.7	3.6	51	48	258.2	0.0	2,484	937	105,921	10,500	

a The total number of households (N), the number of households contacted (n), standard error (SE), and includes 95 percent confidence interval, CI (95%). Dashes indicate indefinable values.

Appendix A.3. Estimated fall chum salmon subsistence harvest by residents of surveyed villages, by harvest stratum, with village and district totals, Yukon Area, 1996. a

Community	Unknown			Does Not Harvest Salmon			Light Harvester			Medium Harvester			Heavy Harvester			Combined					
	N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	Total	N	n	Est Total (+/-)	
Hooper Bay Scammon Bay Coastal District	6	5	0.0	0.0	73	6	0.0	0.0	74	17	5.1	3.8	24	19	0.3	0.1	-	177	47	392	560
	3	2	0.0	0.0	24	3	0.0	0.0	50	11	0.0	0.0	2	2	0.0	0.0	-	79	18	0	0
	9	7	0.0	0.0	97	9	0.0	0.0	124	28	3.1	2.3	26	21	0.3	0.1	-	256	65	392	560
	0	0	-	-	10	9	0.0	0.0	22	15	0.9	0.5	5	5	0.0	0.0	-	37	29	21	22
Sheldon's Point	2	2	7.5	0.0	51	3	0.0	0.0	78	18	0.7	0.6	5	3	5.6	3.5	1	137	27	100	103
Alakanuk	7	3	0.0	0.0	74	21	5.1	4.3	64	32	0.8	0.6	16	16	23.0	0.0	0	161	72	808	641
Emmonak	4	4	1.2	0.0	25	4	25.0	22.9	56	15	15.3	7.2	12	9	0.6	0.3	1	98	33	1,797	1,374
Kotlik	13	9	1.5	0.0	160	37	6.3	4.1	220	80	4.5	1.8	38	33	10.6	0.4	2	433	161	2,726	1,520
District 1	2	2	0.0	0.0	40	5	0.0	0.0	88	25	11.0	5.3	9	8	8.0	1.7	1	140	40	1,047	925
Mountain Village	2	2	0.0	0.0	8	5	2.6	1.5	20	20	16.6	0.0	4	4	62.5	0.0	0	34	31	603	24
Pikas Point	0	0	-	-	48	8	0.0	0.0	56	14	3.7	1.8	20	17	22.2	5.5	0	124	39	658	299
St. Mary's	1	0	-	-	43	9	0.0	0.0	48	23	4.1	2.3	2	2	50.0	0.0	0	94	34	298	223
Pilot Station	0	0	-	-	14	5	0.0	0.0	43	11	35.0	23.5	8	6	88.3	44.1	0	65	22	2,212	2,105
Marshall	5	4	0.0	0.0	153	32	0.1	0.0	255	93	12.6	4.4	43	37	36.6	8.6	1	457	166	4,818	2,330
District 2	0	0	-	-	23	4	17.5	15.9	29	7	0.0	0.0	4	4	46.0	0.0	1	57	15	587	717
Russian Mission	0	0	-	-	20	3	36.6	33.8	40	10	22.5	17.2	4	4	45.2	0.0	0	64	17	1,814	1,891
Holy Cross	0	0	-	-	21	5	0.0	0.0	11	2	0.0	0.0	7	6	27.0	6.7	3	42	16	305	92
Shageluk	0	0	-	-	64	12	17.7	12.0	80	19	11.3	8.6	15	14	36.9	3.1	4	163	48	2,706	2,024
District 3	0	0	-	-	18	15	0.6	0.2	16	15	10.9	0.9	4	4	67.5	0.0	0	38	34	457	31
Anvik	0	0	-	-	26	5	45.0	35.0	27	4	5.0	4.8	10	9	30.4	2.5	1	64	19	1,759	1,805
Grayling	0	0	-	-	13	5	7.4	5.8	27	8	10.0	5.0	8	7	47.8	6.2	3	51	23	1,049	319
Kallag	5	3	0.6	0.4	41	7	3.2	2.9	31	9	44.4	16.1	10	10	78.3	0.0	0	87	29	2,299	1,010
Nulato	0	0	-	-	22	3	0.0	0.0	18	5	75.0	60.6	2	2	261.0	0.0	1	43	11	2,458	2,138
Koyukuk	4	3	27.6	8.3	69	5	0.0	0.0	51	13	61.5	37.2	10	10	239.1	0.0	3	137	34	6,620	3,725
Galeana	2	2	0.0	0.0	37	2	0.0	0.0	16	5	0.0	0.0	4	4	2.0	0.0	4	63	17	561	0
Ruby	0	0	-	-	46	3	0.0	0.0	12	5	0.0	0.0	9	8	33.1	10.3	3	70	19	298	182
Huslia	1	1	0.0	0.0	16	14	0.0	0.0	4	4	8.5	0.0	5	5	48.0	0.0	1	27	25	274	0
Hughes	8	3	0.0	0.0	20	4	0.0	0.0	13	5	0.0	0.0	8	8	99.6	0.0	2	51	22	961	0
Allakaket	2	1	0.0	0.0	6	4	0.0	0.0	2	1	0.0	-	3	2	0.0	0.0	0	13	8	0	0
Alaina	1	1	0.0	-	20	16	0.0	0.0	4	4	12.5	0.0	2	1	0.0	-	0	27	22	50	0
Bettles	23	14	5.0	1.4	334	83	4.2	2.7	221	78	29.5	10.2	75	70	80.0	1.4	18	671	263	16,786	4,782
District 4	8	4	12.5	8.8	62	16	1.2	1.0	14	5	0.0	0.0	13	12	383.2	43.4	13	110	50	21,420	1,124
Tanana	0	0	-	-	9	8	27.2	9.0	7	6	33.3	12.5	11	11	37.9	0.0	1	28	25	896	235
Rampart	0	0	-	-	12	8	0.0	0.0	10	8	17.5	5.7	5	3	0.0	0.0	2	29	21	991	112
Stevens Village	0	0	-	-	12	10	0.0	0.0	3	0	-	-	0	0	-	-	0	15	10	0	0
Birch Creek	0	0	-	-	19	15	0.0	0.0	10	9	0.8	0.1	3	2	0.0	0.0	2	35	28	9	3
Beaver	1	0	-	-	122	12	0.0	0.0	46	14	14.2	6.6	18	17	265.4	20.2	5	203	53	7,063	933
Fort Yukon	12	5	2.0	1.5	34	5	0.0	0.0	10	4	0.0	0.0	5	5	224.6	0.0	3	55	19	7,195	0
Venette	3	2	0.0	0.0	23	20	25.2	9.0	4	4	0.0	0.0	2	2	325.0	0.0	0	29	26	1,230	406
Chalkyitsik	0	0	-	-	293	94	3.1	0.7	104	50	10.3	3.1	57	52	209.7	11.8	26	504	232	38,804	1,539
District 5	74	45	3.5	1.0	1,101	267	4.1	1.2	1,004	348	13.0	2.6	254	227	80.7	3.0	51	2,484	935	66,232	6,115
Yukon Totals																					

a The total number of households (N), the number of households contacted (n), standard error (SE), and includes 95 percent confidence interval. CI (95%). Dashes indicate indefinable values.

Appendix A.4. Estimated coho salmon subsistence harvest by residents of surveyed villages, by harvest stratum, with village and district totals, Yukon Area, 1996. a

Community	Unknown			Does Not Harvest Salmon			Light Harvester			Medium Harvester			Heavy Harvester			Combined								
	N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	Total	Est	CI(95%)					
																				(+/-)				
Hooper Bay Scammon Bay Coastal District	6	5	0.0	0.0	73	6	0.1	0.1	74	17	0.6	0.5	24	19	1.3	0.4	0	0	-	-	177	47	92	80
	3	2	0.0	0.0	24	3	0.0	0.0	50	11	0.0	0.0	2	2	0.0	0.0	0	0	-	-	79	18	0	0
	9	7	0.0	0.0	97	9	0.1	0.1	124	28	0.4	0.3	26	21	1.2	0.3	0	0	-	-	256	65	92	80
	0	0	-	-	10	9	3.3	1.0	22	15	2.4	1.2	5	5	10.0	0.0	0	0	-	-	37	29	138	58
Sheldon's Point Alakanuk Emmonak Kolik District 1	2	2	2.0	0.0	51	3	0.0	0.0	78	18	1.0	0.7	5	3	3.3	2.1	1	1	0.0	-	137	27	103	115
	7	3	0.0	0.0	74	21	1.3	1.1	64	32	2.0	1.0	16	16	2.3	0.0	0	0	-	-	161	72	268	212
	4	4	1.2	0.0	25	4	25.0	22.9	56	15	4.6	2.7	12	9	7.7	2.3	1	1	200.0	-	98	33	1,181	1,165
	13	9	0.7	0.0	160	37	4.8	3.6	220	80	2.4	0.8	38	33	5.2	0.7	2	2	100.0	0.0	433	161	1,690	1,191
Mountain Village Pikas Point St. Mary's Pilot Station Marshall District 2	2	2	0.0	0.0	40	5	0.0	0.0	88	25	0.2	0.1	9	8	2.6	0.7	1	0	-	-	140	40	48	24
	2	2	0.5	0.0	8	5	0.0	0.0	20	20	22.0	0.0	4	4	62.5	0.0	0	0	-	-	34	31	691	0
	0	0	-	-	48	8	0.0	0.0	56	14	1.4	0.9	20	17	10.5	2.1	0	0	-	-	124	39	292	135
	1	0	-	-	43	9	22.2	19.7	48	23	5.5	3.1	2	2	5.0	0.0	0	0	-	-	94	34	1,233	1,691
Marshall District 2	0	0	-	-	14	5	0.0	0.0	43	11	22.2	12.4	8	6	0.0	0.0	0	0	-	-	65	22	958	1,052
	5	4	0.2	0.0	153	32	6.2	5.5	255	93	6.9	2.1	43	37	11.5	1.0	1	0	-	-	457	166	3,222	1,997
	0	0	-	-	23	4	7.0	6.3	29	7	0.0	0.0	4	4	23.5	0.0	1	0	-	-	57	15	255	286
	0	0	-	-	20	3	0.0	0.0	40	10	0.0	0.0	4	4	0.0	0.0	0	0	-	-	64	17	0	0
Russian Mission Holy Cross Shageluk District 3	0	0	-	-	21	5	6.0	5.2	11	2	0.0	0.0	7	6	0.0	0.0	3	3	21.0	0.0	42	16	189	215
	0	0	-	-	64	12	4.5	2.8	80	19	0.0	0.0	15	14	6.3	0.0	4	3	15.8	0.0	163	48	444	358
	0	0	-	-	18	15	0.0	0.0	16	15	2.4	0.3	4	4	1.5	0.0	0	0	-	-	38	34	44	11
	0	0	-	-	26	5	0.0	0.0	27	4	2.5	2.3	10	9	4.3	0.8	1	1	125.0	-	64	19	236	123
Anvik Grayling Kallag District 4	0	0	-	-	13	5	5.0	3.9	27	8	0.0	0.0	8	7	4.1	0.6	3	3	66.6	0.0	51	23	298	100
	5	3	0.3	0.2	41	7	0.0	0.0	31	9	4.4	3.7	10	10	1.0	0.0	0	0	-	-	87	29	149	227
	0	0	-	-	22	3	0.0	0.0	18	5	6.0	5.0	2	2	0.0	0.0	1	1	368.0	-	43	11	476	179
	4	3	0.0	0.0	69	5	0.0	0.0	51	14	1.4	1.2	10	10	33.9	0.0	3	3	122.6	0.0	137	35	780	121
Galena Ruby Huslia Hughes District 5	2	2	0.0	0.0	37	2	0.0	0.0	16	5	1.6	1.3	4	4	0.0	0.0	4	4	87.5	0.0	63	17	376	41
	0	0	-	-	46	3	0.0	0.0	12	5	0.0	0.0	9	8	2.0	0.6	3	3	0.0	0.0	70	19	18	10
	1	1	0.0	0.0	16	14	0.0	0.0	4	4	0.0	0.0	5	5	10.2	0.0	1	1	0.0	-	27	25	51	0
	8	3	0.0	0.0	20	4	0.0	0.0	13	5	0.0	0.0	8	8	1.2	0.0	2	2	14.5	0.0	51	22	39	0
Allakaket Alaina Bettles District 4	2	1	0.0	0.0	6	4	0.0	0.0	2	1	0.0	-	3	2	0.0	0.0	0	0	-	-	13	8	0	0
	1	1	0.0	0.0	20	16	0.0	0.0	4	4	0.0	0.0	2	1	0.0	-	0	0	-	-	27	22	0	0
	23	14	0.1	0.0	334	83	0.2	0.1	221	79	2.0	0.7	75	70	6.8	0.1	18	18	80.0	0.0	671	264	2,467	355
	8	4	0.0	0.0	62	16	0.0	0.0	14	5	0.0	0.0	13	12	86.6	14.6	13	13	383.3	0.0	110	50	6,110	372
Tanana Rampart Stevens Village Birch Creek District 5	0	0	-	-	9	8	0.0	0.0	7	6	0.0	0.0	11	11	0.4	0.0	1	0	-	-	28	25	5	0
	0	0	-	-	12	8	0.0	0.0	10	8	0.0	0.0	5	3	0.0	0.0	2	2	1.0	0.0	29	21	2	0
	0	0	-	-	12	10	0.0	0.0	3	0	-	-	0	0	-	-	0	0	-	-	15	10	0	0
	1	0	-	-	19	15	0.0	0.0	10	9	0.2	0.0	3	2	0.0	0.0	2	2	2.5	0.0	35	28	7	1
Beaver Fort Yukon Venette Chalkyitsik District 5	12	5	0.0	0.0	122	12	0.0	0.0	46	14	0.0	0.0	18	17	7.0	1.3	5	5	6.0	0.0	203	53	157	49
	3	2	0.0	0.0	34	5	0.0	0.0	10	4	0.0	0.0	5	5	50.8	0.0	3	3	3.3	0.0	55	19	264	0
	0	0	-	-	23	20	0.0	0.0	4	4	0.0	0.0	2	2	0.0	0.0	0	0	-	-	29	26	0	0
	24	11	0.0	0.0	293	94	0.0	0.0	104	50	0.0	0.0	57	52	26.5	3.3	26	25	193.5	0.0	504	232	6,545	375
Yukon Totals	74	45	0.2	0.0	1,101	267	1.9	0.9	1,004	349	2.8	0.6	254	227	11.2	0.7	51	48	132.0	0.0	2,484	936	14,460	2,410

a The total number of households (N), the number of households contacted (n), standard error (SE), and includes 95 percent confidence interval, CI (95%). Dashes indicate indefinable values.

Appendix A.5. Estimated chinook salmon subsistence use by residents of surveyed villages, by harvest stratum, with village and district totals, Yukon Area, 1996. a

Community	Unknown			Does Not Harvest Salmon			Light Harvester			Medium Harvester			Heavy Harvester			Combined		
	N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	Total	Est CI(95%) Total (+/-)
Hooper Bay	6	5	2.6	0.7	73	5	3.8	1.9	74	15	7.2	2.4	24	19	8.4	1.1	177	44 1,034 455
Scammon Bay	3	2	2.5	1.4	24	3	7.3	5.9	50	12	23.5	14.3	2	2	15.0	0.0	79	19 1,393 1,432
Coastal District	9	7	2.6	0.7	97	8	4.7	2.0	124	27	13.8	5.9	26	21	9.0	1.0	256	63 2,427 1,503
Sheldon's Point	0	0	-	-	10	8	1.7	0.3	22	15	13.8	2.2	5	4	11.2	2.9	37	27 377 102
Atkanuk	2	2	1.5	0.0	51	1	8.0	-	78	18	7.3	2.7	5	3	8.6	2.1	137	25 1,036 422
Emmonak	7	3	6.6	5.0	74	21	4.8	1.3	64	30	8.1	1.2	16	16	8.7	0.0	161	70 1,061 258
Kolik	4	4	0.7	0.0	25	3	0.0	0.0	56	14	7.8	2.6	12	8	15.8	3.5	98	30 834 301
District 1	13	9	4.1	2.7	160	33	4.9	0.7	220	77	8.3	1.2	38	31	11.3	1.2	433	152 3,308 568
Mountain Village	2	2	33.5	0.0	40	5	5.2	2.9	88	24	11.7	2.1	9	8	23.1	2.5	140	39 1,517 446
Pitkas Point	2	2	1.0	0.0	8	4	1.2	0.8	20	20	15.4	0.0	4	4	47.2	0.0	34	30 509 13
St. Mary's	0	0	-	-	48	8	13.1	6.3	56	14	9.7	3.2	20	19	27.4	1.0	124	41 1,723 696
Pilot Station	1	0	-	-	43	8	23.0	13.8	48	22	24.1	4.2	2	2	46.0	0.0	94	32 2,240 1,235
Marshall	0	0	-	-	14	4	7.5	5.0	43	11	46.8	9.7	8	7	27.2	3.7	65	22 2,336 838
District 2	5	4	13.8	0.0	153	29	12.7	4.4	255	91	19.8	2.1	43	40	29.2	1.0	457	164 8,325 1,707
Russian Mission	0	0	-	-	23	4	22.0	11.6	29	6	74.6	24.7	4	4	43.0	0.0	57	14 2,843 1,499
Holy Cross	0	0	-	-	20	3	1.6	0.8	40	10	71.0	18.8	4	4	101.5	0.0	64	17 3,279 1,475
Shageluk	0	0	-	-	21	3	3.0	1.9	11	2	0.5	0.4	7	6	10.5	3.0	42	14 189 90
District 3	0	0	-	-	64	10	9.4	4.2	80	18	62.6	12.9	15	14	43.4	1.4	163	45 6,311 2,106
Anvik	0	0	-	-	18	14	4.9	1.1	16	15	26.1	1.7	4	4	82.7	0.0	38	33 838 67
Grayling	0	0	-	-	26	5	25.0	10.0	27	4	6.0	3.3	10	9	25.3	2.3	64	19 1,073 544
Kallag	0	0	-	-	13	3	0.6	0.2	27	8	21.8	3.4	8	7	24.2	2.2	51	21 843 184
Nulato	5	3	1.3	0.4	41	7	3.0	2.7	31	9	31.8	13.1	10	10	60.1	0.0	87	29 1,719 826
Koyukuk	0	0	-	-	22	3	0.6	0.6	18	3	16.0	11.1	2	2	30.0	0.0	43	9 456 394
Galeña	4	3	0.3	0.1	69	5	10.8	9.9	51	14	24.8	6.6	10	10	40.7	0.0	137	35 2,730 1,498
Ruby	2	2	0.0	0.0	37	1	10.0	-	16	5	21.4	17.5	4	4	28.0	0.0	63	16 1,016 549
Huslia	0	0	-	-	46	3	0.3	0.3	12	5	2.8	1.2	9	8	5.8	1.6	70	19 106 50
Hughes	1	1	0.0	0.0	16	14	1.0	0.1	4	4	1.2	0.0	5	4	12.7	5.5	27	24 85 54
Allakaket	8	3	0.0	0.0	20	4	2.5	2.2	13	5	1.0	0.6	8	8	2.3	0.0	51	22 120 89
Alatna	2	1	0.0	-	6	4	0.5	0.2	2	1	2.0	-	3	2	0.5	0.2	13	8 9 3
Bettles	1	1	0.0	-	20	16	0.1	0.0	4	4	0.7	0.0	2	1	0.0	-	27	22 6 1
District 4	23	14	0.3	0.0	334	79	6.2	2.2	221	77	18.6	2.9	75	69	27.9	0.5	671	257 9,001 1,932
Tanana	8	3	0.6	0.2	62	13	3.3	1.0	14	5	6.6	1.8	13	12	34.0	4.2	110	46 2,503 177
Rampart	0	0	-	-	9	7	3.8	0.8	7	6	67.5	13.8	11	11	47.6	0.0	28	24 1,031 190
Stevens Village	0	0	-	-	12	8	4.6	0.8	10	8	42.3	7.4	5	3	3.3	1.0	29	21 712 148
Birch Creek	0	0	-	-	12	9	1.5	0.3	3	0	-	-	0	0	-	-	15	9 19 8
Beaver	1	0	-	-	19	15	5.4	1.3	10	9	22.5	2.7	3	2	48.0	1.1	35	28 472 72
Fort Yukon	12	4	25.0	8.6	122	9	8.0	2.9	46	14	24.2	8.8	18	16	42.5	4.8	203	48 3,435 1,100
Venette	3	2	0.0	0.0	34	5	3.0	2.7	10	4	10.5	5.1	5	5	25.6	0.0	55	19 343 210
Chalkyitsik	0	0	-	-	23	20	0.5	0.0	4	4	3.2	0.0	2	2	15.0	0.0	29	26 55 3
District 5	24	9	12.7	4.3	293	86	5.2	1.3	104	50	23.5	4.1	57	51	36.0	1.8	504	221 8,570 1,162
Yukon Totals	74	43	6.6	1.4	1,101	245	6.7	1.0	1,004	340	20.1	1.6	254	226	26.5	0.5	2,484	902 37,942 3,878

a The total number of households (N), the number of households contacted (n), standard error (SE), and includes 95 percent confidence interval, CI (95%). Dashes indicate indefinable values.

Appendix A.6. Estimated summer chum salmon subsistence use by residents of surveyed villages, by harvest stratum, with village and district totals, Yukon Area, 1996. a

Community	Unknown				Does Not Harvest Salmon				Light Harvester				Medium Harvester				Heavy Harvester				Combined					
	N		Mean		SE		N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	Total	N	n	Est Total	C(95%) Total (+/-)			
Hooper Bay Scammon Bay Coastal District	6	5	34.6	8.3			73	5	98.4	43.2	74	15	92.0	23.1	24	19	136.2	11.8	0	0	-	-	177	44	17,473	7,056
	3	2	25.0	14.4			24	3	1.0	0.9	50	12	129.7	34.3	2	2	58.0	0.0	0	0	-	-	79	19	6,703	3,365
	9	7	31.4	7.3			97	8	74.3	32.5	124	27	107.3	19.5	26	21	130.2	10.9	0	0	-	-	256	63	24,176	7,817
	0	0	-	-	-	-	10	8	12.8	3.9	22	15	90.3	9.2	5	4	81.5	7.3	0	0	-	-	37	27	2,524	414
Sheldon's Point Alakanuk Emmonak Kolik District 1	2	2	5.0	0.0			51	1	4.0	-	78	18	61.7	21.3	5	3	171.6	38.8	1	1	105.0	-	137	25	5,992	3,286
	7	3	26.6	10.9			74	21	44.3	11.5	64	30	72.5	10.9	16	16	135.2	0.0	0	0	-	-	161	70	10,277	2,174
	4	4	1.7	0.0			25	3	2.6	1.2	56	14	77.8	20.8	12	8	193.5	43.1	1	1	240.0	-	98	30	6,996	2,508
	13	9	15.7	5.9			160	33	23.0	5.3	220	77	71.8	9.8	38	31	151.4	14.5	2	2	172.5	0.0	433	152	25,789	4,689
Mountain Village Pitkas Point St. Mary's Pilot Station Marshall District 2	2	2	66.5	0.0			40	5	55.0	24.5	88	24	79.2	11.2	9	8	266.2	23.1	1	0	-	-	140	39	11,700	2,766
	2	2	0.0	0.0			8	4	32.7	13.6	20	20	40.0	0.0	4	4	105.5	0.0	0	0	-	-	34	30	1,484	214
	0	0	-	-			48	8	51.1	19.6	56	14	39.6	15.0	20	19	202.4	8.3	0	0	-	-	124	41	8,723	2,500
	1	0	-	-			43	8	77.1	42.4	48	22	60.2	12.5	2	2	76.0	0.0	0	0	-	-	94	32	6,359	3,767
Russian Mission Holy Cross Shageluk District 3	0	0	-	-			14	4	5.0	4.2	43	11	84.8	19.2	8	7	113.2	17.4	0	0	-	-	65	22	4,627	1,652
	5	4	26.6	0.0			153	29	54.3	14.9	255	91	64.8	6.4	43	40	184.3	7.0	1	0	-	-	457	164	32,893	5,556
	0	0	-	-			23	4	86.7	65.3	29	6	40.1	13.5	4	4	59.2	0.0	1	0	-	-	57	14	3,397	3,046
	0	0	-	-			20	3	0.0	0.0	40	10	16.6	7.7	4	4	143.7	0.0	0	0	-	-	64	17	1,239	611
Anvik Grayling Kallag Nulato Koyukuk Galena Ruby Huslia Hughes Allakaket Alatna Beiltes District 4	0	0	-	-			18	14	2.8	0.7	16	15	257.8	29.2	4	4	1,446.7	0.0	0	0	-	-	38	33	9,964	917
	0	0	-	-			26	5	3.0	2.6	27	4	12.5	11.5	10	9	259.7	35.2	1	1	850.0	-	64	19	3,863	932
	0	0	-	-			13	3	1,000.0	877.0	27	8	2032.7	909.8	8	7	195.4	34.3	3	3	1,202.6	0.0	51	21	73,056	53,089
	5	3	15.3	9.0			41	7	146.4	129.5	31	9	230.2	150.5	10	10	879.3	0.0	0	0	-	-	87	29	22,010	13,861
Koyukuk Galena Ruby Huslia Hughes Allakaket Alatna Beiltes District 4	0	0	-	-			22	3	3.3	3.0	18	3	433.3	395.5	2	2	20.0	0.0	1	1	91.0	-	43	9	8,004	13,956
	4	3	33.3	16.6			69	5	36.0	19.8	51	14	261.1	190.4	10	10	1,223.8	0.0	3	2	625.0	331.9	137	34	30,049	19,326
	2	2	0.0	0.0			37	1	0.0	-	16	5	43.4	33.9	4	4	170.0	0.0	4	4	380.5	0.0	63	16	2,896	1,064
	0	0	-	-			46	3	0.0	0.0	12	5	2.0	1.5	9	8	167.5	21.9	3	3	400.0	0.0	70	19	2,732	388
Tanana Rampart Stevens Village Birch Creek Beaver Fort Yukon Venette Chalkyitsik District 5	1	1	0.0	-			16	14	0.0	0.0	4	4	51.7	0.0	5	4	330.5	116.4	1	1	0.0	-	27	24	1,860	1,141
	8	3	0.0	0.0			20	4	6.2	4.2	13	5	6.0	4.7	8	8	358.5	0.0	2	2	703.5	0.0	51	22	4,478	204
	2	1	5.0	-			6	4	2.5	1.4	2	1	0.0	-	3	2	45.0	25.9	0	0	-	-	13	8	160	153
	1	1	0.0	-			20	16	0.0	0.0	4	4	0.2	0.0	2	1	0.0	-	0	0	-	-	27	22	1	0
Yukon Totals	23	14	9.6	3.5			334	79	65.4	37.8	221	77	400.9	125.6	75	69	504.8	10.1	18	17	586.3	55.3	671	256	159,073	59,861
	8	3	12.3	9.3			62	13	0.0	0.0	14	5	3.0	2.4	13	12	60.3	11.1	13	13	403.5	0.0	110	46	6,171	327
	0	0	-	-			9	7	0.0	0.0	7	6	22.8	6.2	11	11	89.8	0.0	1	0	-	-	28	24	1,148	85
	0	0	-	-			12	8	0.6	0.3	10	8	1.8	0.8	5	3	6.6	4.2	2	2	245.5	0.0	29	21	551	45
	0	0	-	-			12	9	0.0	0.0	3	0	-	-	0	0	-	-	0	0	-	-	15	9	0	0
	1	0	-	-			19	15	0.1	0.0	10	9	10.8	1.5	3	2	49.0	25.4	2	2	125.0	0.0	35	28	508	152
	12	4	0.0	0.0			122	9	0.0	0.0	46	14	0.0	0.0	18	16	1.5	0.5	5	5	0.0	0.0	203	48	28	18
	3	2	0.0	0.0			34	5	4.0	3.6	10	4	0.0	0.0	5	5	0.0	0.0	3	3	0.0	0.0	55	19	136	246
	0	0	-	-			23	20	0.0	0.0	4	4	0.0	0.0	2	2	0.0	0.0	0	0	-	-	29	26	0	0
	24	9	4.3	3.1			293	86	0.5	0.4	104	50	3.2	0.5	57	51	34.8	2.9	26	25	230.3	0.0	504	221	8,542	447
	74	43	12.7	2.0			1,101	245	39.2	12.1	1,004	340	136.5	27.9	254	226	236.3	4.4	51	47	398.4	19.5	2,484	901	261,543	60,900

a The total number of households (N), the number of households contacted (n), standard error (SE), and includes 95 percent confidence interval, CI (95%). Dashes indicate indefinable values.

Appendix A.7. Estimated fall chum salmon subsistence use by residents of surveyed villages, by harvest stratum, with village and district totals, Yukon Area, 1996. a

Community	Unknown			Does Not Harvest Salmon			Light Harvester			Medium Harvester			Heavy Harvester			Combined				
	N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	Total	Est	CI(95%) (+/-)	
Hooper Bay	6	5	0.0	0.0	73	5	0.0	0.0	74	15	5.2	4.4	24	19	0.3	0.1	177	44	394	646
Scammon Bay	3	2	0.0	0.0	24	3	0.0	0.0	50	12	0.0	0.0	2	2	0.0	0.0	79	19	0	0
Coastal District	9	7	0.0	0.0	97	8	0.0	0.0	124	27	3.1	2.6	26	21	0.3	0.1	256	63	394	646
Sheldon's Point	0	0	-	-	10	8	33.2	14.8	22	15	2.2	0.7	5	4	0.0	0.0	37	27	382	293
Alakanuk	2	2	7.5	0.0	51	1	0.0	-	78	18	0.9	0.6	5	3	5.6	3.5	137	25	117	103
Emmonak	7	3	3.3	1.2	74	21	4.6	2.4	64	30	11.0	3.5	16	16	23.9	0.0	161	70	1,460	571
Kolik	4	4	1.2	0.0	25	3	30.0	14.3	56	14	18.4	7.6	12	8	7.0	3.5	98	30	2,211	1,097
District 1	13	9	3.3	0.6	160	33	8.9	2.6	220	77	8.5	2.2	38	31	13.0	1.2	433	152	4,170	1,275
Mountain Village	2	2	0.0	0.0	40	5	1.2	1.1	88	24	7.3	2.4	9	8	8.0	1.7	140	39	765	438
Pitkas Point	2	2	0.0	0.0	8	4	2.5	1.7	20	20	17.9	0.0	4	4	62.5	0.0	34	30	628	27
St. Mary's	0	0	-	-	48	8	0.0	0.0	56	14	8.8	3.6	20	19	13.8	2.3	124	41	774	413
Pilot Station	1	0	-	-	43	8	1.2	1.1	48	22	3.4	1.8	2	2	54.0	0.0	94	32	328	200
Marshall	0	0	-	-	14	4	0.0	0.0	43	11	35.0	23.5	8	7	75.7	26.7	65	22	2,111	2,031
District 2	5	4	0.0	0.0	153	29	0.8	0.4	255	91	12.4	4.1	43	40	30.5	5.1	457	164	4,606	2,129
Russian Mission	0	0	-	-	23	4	17.5	15.9	29	6	0.0	0.0	4	4	46.0	0.0	57	14	587	717
Holy Cross	0	0	-	-	20	3	1.6	1.5	40	10	22.5	17.2	4	4	72.7	0.0	64	17	1,224	1,350
Shageluk	0	0	-	-	21	3	0.0	0.0	11	2	1.0	0.9	7	6	34.8	6.0	42	14	371	85
District 3	0	0	-	-	64	10	6.8	5.7	80	18	11.4	8.6	15	14	47.9	2.8	163	45	2,182	1,531
Anvik	0	0	-	-	18	14	0.9	0.3	16	15	11.4	0.9	4	4	69.5	0.0	38	33	477	31
Grayling	0	0	-	-	28	5	25.0	17.4	27	4	5.0	4.6	10	9	30.2	3.0	64	19	1,137	921
Katleg	0	0	-	-	13	3	0.0	0.0	27	8	8.2	2.5	8	7	40.8	5.8	51	21	850	164
Nulato	5	3	0.6	0.4	41	7	24.7	13.1	31	9	26.8	13.7	10	10	91.6	0.0	87	29	2,766	1,345
Koyukuk	0	0	-	-	22	3	0.0	0.0	18	3	123.3	108.0	2	2	48.5	0.0	43	9	2,903	3,811
Galena	4	3	27.6	8.3	69	5	0.0	0.0	51	13	63.1	34.0	10	10	239.1	0.0	137	34	6,543	3,407
Ruby	2	2	0.0	0.0	37	1	0.0	-	16	5	3.0	2.4	4	4	17.0	0.0	63	16	669	78
Huslia	0	0	-	-	46	3	0.6	0.6	12	5	2.0	1.5	9	8	31.8	10.3	3	3	0.0	195
Hughes	1	1	0.0	0.0	16	14	0.2	0.0	4	4	8.5	0.0	5	4	34.5	10.5	1	1	0.0	103
Allakaket	8	3	0.0	0.0	20	4	6.5	4.2	13	5	20.0	15.6	8	8	99.6	0.0	27	24	210	103
Alatna	2	1	0.0	-	6	4	0.5	0.2	2	1	0.0	-	3	2	0.0	0.0	51	22	1,344	432
Bettles	1	1	0.0	-	20	16	0.0	0.0	4	4	14.0	0.0	2	1	0.0	-	13	8	3	3
District 4	23	14	5.0	1.4	334	79	5.5	2.1	221	76	32.7	12.0	75	69	75.1	1.6	671	256	17,300	5,391
Tanana	8	3	23.3	11.4	62	13	7.9	5.5	14	5	0.0	0.0	13	12	639.8	80.9	110	46	34,649	2,179
Rampart	0	0	-	-	9	7	0.0	0.0	7	6	16.6	6.2	11	11	27.0	0.0	28	24	415	86
Stevens Village	0	0	-	-	12	8	0.3	0.2	10	8	17.5	5.7	5	3	13.3	8.4	29	21	1,022	139
Birch Creek	0	0	-	-	12	9	0.0	0.0	3	0	-	-	0	0	-	-	15	9	0	0
Beaver	1	0	-	-	19	15	0.0	0.0	10	9	0.8	0.1	3	2	0.0	0.0	35	28	9	3
Fort Yukon	12	4	2.5	2.0	122	9	2.1	1.8	46	14	19.7	7.7	18	16	293.3	30.9	203	48	8,374	1,364
Venette	3	2	0.0	0.0	34	5	0.0	0.0	10	4	0.0	0.0	5	5	224.6	0.0	55	19	7,175	0
Chalkyitsik	0	0	-	-	23	20	25.7	9.0	4	4	0.0	0.0	2	2	320.0	0.0	29	26	1,231	406
District 5	24	9	9.4	3.9	293	86	4.6	1.5	104	50	11.9	3.4	57	51	275.9	20.9	504	221	52,875	2,608
Yukon Totals	74	43	5.1	1.3	1,101	245	4.7	0.9	1,004	339	14.7	3.0	254	226	94.1	4.8	51	48	731.4	6,692

a. The total number of households (N), the number of households contacted (n), standard error (SE), and includes 95 percent confidence interval, CI (95%). Dashes indicate indefinable values.

Appendix A.B. Estimated coho salmon subsistence use by residents of surveyed villages, by harvest stratum, with village and district totals, Yukon Area, 1996. a

Community	Unknown				Does Not Harvest Salmon				Light Harvester				Medium Harvester				Heavy Harvester				Total		Est CI(95%) (+/-)	
	N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	N	n	Mean	SE	N	n		
Hooper Bay	6	5	0.0	0.0	73	5	0.2	0.1	74	15	0.0	0.0	24	19	1.3	0.4	0	0	-	-	177	44	51	34
Scammon Bay	3	2	0.0	0.0	24	3	0.0	0.0	50	12	0.0	0.0	2	2	0.0	0.0	0	0	-	-	79	19	0	0
Coastal District	9	7	0.0	0.0	97	8	0.2	0.1	124	27	0.0	0.0	26	21	1.2	0.3	0	0	-	-	256	63	51	34
Sheldon's Point	0	0	-	-	10	8	4.3	1.6	22	15	3.1	1.3	5	4	12.5	5.5	0	0	-	-	37	27	175	84
Alakanuk	2	2	2.0	0.0	51	1	0.0	-	78	18	1.7	0.7	5	3	3.3	2.1	1	1	0.0	-	137	25	159	123
Emmonak	7	3	0.0	0.0	74	21	1.1	0.4	64	30	9.3	3.2	16	16	5.7	0.0	0	0	-	-	161	70	777	412
Kolik	4	4	1.2	0.0	25	3	18.6	14.7	56	14	6.8	3.2	12	8	15.1	4.0	1	1	200.0	-	98	30	1,237	815
District 1	13	9	0.7	0.0	160	33	3.7	2.3	220	77	5.4	1.3	38	31	9.3	1.5	2	2	100.0	0.0	433	152	2,348	926
Mountain Village	2	2	0.0	0.0	40	5	0.0	0.0	88	24	0.6	0.2	9	8	2.6	0.7	1	0	-	-	140	39	82	49
Pitkas Point	2	2	0.5	0.0	8	4	0.2	0.1	20	20	22.2	0.0	4	4	62.5	0.0	0	0	-	-	34	30	698	2
St. Mary's	0	0	-	-	48	8	0.0	0.0	56	14	2.6	1.4	20	19	7.0	0.9	0	0	-	-	124	41	289	166
Pilot Station	1	0	-	-	43	8	28.7	22.3	48	22	4.8	1.6	2	2	5.0	0.0	0	0	-	-	94	32	1,478	1,888
Marshall	0	0	-	-	14	4	2.5	2.1	43	11	22.2	12.4	8	7	2.1	0.5	0	0	-	-	65	22	1,010	1,054
District 2	5	4	0.2	0.0	153	29	8.3	6.2	255	91	7.2	2.1	43	40	10.3	0.4	1	0	-	-	457	164	3,557	2,169
Russian Mission	0	0	-	-	23	4	7.2	6.2	29	6	0.0	0.0	4	4	23.5	0.0	1	0	-	-	57	14	261	283
Holy Cross	0	0	-	-	20	3	0.0	0.0	40	10	0.0	0.0	4	4	0.0	0.0	0	0	-	-	64	17	0	0
Shageluk	0	0	-	-	21	3	10.0	9.2	11	2	5.0	4.5	7	6	0.0	0.0	3	3	15.6	0.0	42	14	312	393
District 3	0	0	-	-	64	10	5.9	3.7	80	18	0.7	0.6	15	14	6.3	0.0	4	3	11.8	0.0	163	45	573	484
Anvik	0	0	-	-	18	14	0.6	0.2	16	15	2.1	0.3	4	4	1.5	0.0	0	0	-	-	38	33	52	14
Grayling	0	0	-	-	26	5	0.0	0.0	27	4	2.5	2.3	10	9	3.7	0.6	1	1	125.0	-	64	19	230	122
Kallag	0	0	-	-	13	3	0.0	0.0	27	8	0.0	0.0	8	7	3.5	0.6	3	3	66.6	0.0	51	21	229	9
Nulato	5	3	0.3	0.2	41	7	0.0	0.0	31	9	4.4	3.7	10	10	1.0	0.0	0	0	-	-	87	29	149	227
Koyukuk	0	0	-	-	22	3	0.0	0.0	18	3	10.0	9.1	2	2	0.0	0.0	1	1	368.0	-	43	9	548	322
Galena	4	3	0.0	0.0	69	5	0.0	0.0	51	14	2.5	1.4	10	10	33.5	0.0	3	3	122.6	0.0	137	35	831	146
Ruby	2	2	0.0	0.0	37	1	0.0	-	16	5	1.6	1.3	4	4	0.0	0.0	4	4	87.5	0.0	63	16	376	41
Huslia	0	0	-	-	46	3	0.0	0.0	12	5	0.0	0.0	9	8	2.0	0.6	3	3	0.0	0.0	70	19	18	10
Hughes	1	1	0.0	-	16	14	0.0	0.0	4	4	0.0	0.0	5	4	12.5	5.5	1	1	0.0	-	27	24	63	54
Allakaket	8	3	0.0	0.0	20	4	0.0	0.0	13	5	2.0	1.5	8	8	1.2	0.0	2	2	14.5	0.0	51	22	65	39
Alatna	2	1	0.0	-	6	4	0.0	0.0	2	1	0.0	-	3	2	0.0	0.0	0	0	-	-	13	8	0	0
Bettles	1	1	0.0	-	20	16	0.0	0.0	4	4	0.0	0.0	2	1	0.0	-	0	0	-	-	27	22	0	0
District 4	23	14	0.1	0.0	334	79	0.0	0.0	221	77	2.7	1.0	75	69	6.8	0.3	18	18	80.0	0.0	671	257	2,561	445
Tanana	8	3	0.0	0.0	62	13	0.0	0.0	14	5	0.0	0.0	13	12	86.6	14.6	13	13	367.9	0.0	110	46	5,910	372
Rampart	0	0	-	-	9	7	0.0	0.0	7	6	0.0	0.0	11	11	0.4	0.0	1	0	-	-	28	24	5	0
Stevens Village	0	0	-	-	12	8	0.0	0.0	10	8	0.0	0.0	5	3	0.0	0.0	2	2	1.0	-	29	21	2	0
Birch Creek	0	0	-	-	12	9	0.0	0.0	3	0	-	-	0	0	-	-	0	0	-	-	15	9	0	0
Beaver	1	0	-	-	19	15	0.0	0.0	10	9	0.2	0.0	3	2	0.0	0.0	2	2	2.5	0.0	35	28	7	1
Fort Yukon	12	4	0.0	0.0	122	9	0.0	0.0	46	14	0.0	0.0	18	16	7.5	2.0	5	5	6.0	0.0	203	48	165	73
Venette	3	2	0.0	0.0	34	5	3.0	2.7	10	4	0.0	0.0	5	5	50.8	0.0	3	3	3.3	0.0	55	19	366	184
Chalkyitsik	0	0	-	-	23	20	0.0	0.0	4	4	0.0	0.0	2	2	0.0	0.0	0	0	-	-	29	26	0	0
District 5	24	9	0.0	0.0	293	86	0.3	0.3	104	50	0.0	0.0	57	51	26.7	3.3	26	25	185.8	0.0	504	221	6,455	422
Yukon Totals	74	43	0.2	0.0	1,101	245	2.2	0.9	1,004	340	3.7	0.6	254	226	11.6	0.8	51	48	127.8	0.0	2,484	902	15,545	2,485

a The total number of households (N), the number of households contacted (n), standard error (SE), and includes 95 percent confidence interval, CI (95%). Dashes indicate indefinable values.

Appendix A.9 Estimated number of salmon given away by commercial fishermen to subsistence households and corresponding confidence intervals for surveyed villages, Yukon Area, 1996. a

Community	Harvest Strata Combined		Chinook Salmon		Summer Chum Salmon		Fall Chum Salmon		Coho Salmon	
	Total Households	Households Contacted	Estimated CI(95%)		Estimated CI(95%)		Estimated CI(95%)		Estimated CI(95%)	
			Total	(+/-)	Total	(+/-)	Total	(+/-)	Total	(+/-)
Hooper Bay	177	46	0	0	0	0	0	0	0	0
Scammon Bay	79	20	0	0	0	0	0	0	0	0
Coastal District	256	66	0	0	0	0	0	0	0	0
Sheldon's Point	37	28	1	1	0	0	7	8	0	0
Alakanuk	137	26	0	0	0	0	0	0	0	0
Emmonak	161	70	0	0	11	15	0	0	213	304
Kotlik	98	34	0	0	0	0	0	0	0	0
District 1	433	158	1	1	11	15	7	8	213	304
Mountain Village	140	40	0	0	16	29	0	0	0	0
Pitkas Point	34	31	0	0	0	0	20	0	0	0
St. Mary's	124	42	22	37	75	125	0	0	0	0
Pilot Station	94	35	0	0	0	0	0	0	15	20
Marshall	65	23	0	0	0	0	0	0	0	0
District 2	457	171	22	37	91	128	20	0	15	20
Russian Mission	57	14	0	0	0	0	0	0	0	0
Holy Cross	64	17	0	0	0	0	0	0	0	0
Shageluk	42	15	0	0	0	0	0	0	0	0
District 3	163	46	0	0	0	0	0	0	0	0
Anvik	38	33	0	0	352	113	0	0	0	0
Grayling	64	19	0	0	1,406	344	0	0	0	0
Kallag	51	21	0	0	800	0	0	0	0	0
Nulato	87	29	0	0	300	0	0	0	0	0
Koyukuk	43	9	0	0	7,890	13,955	0	0	0	0
Galena	137	35	0	0	1,738	2,608	0	0	0	0
Ruby	63	16	0	0	0	0	0	0	0	0
Huslia	70	19	0	0	100	0	0	0	0	0
Hughes	27	24	1	0	0	0	0	0	0	0
Allakaket	51	22	1	0	0	0	0	0	0	0
Alaina	13	8	0	0	0	0	0	0	0	0
Bettles	27	22	0	0	0	0	0	0	0	0
District 4	671	257	2	0	12,586	14,202	0	0	0	0
Tanana	110	46	0	0	0	0	1,698	0	0	0
Rampart	28	24	0	0	0	0	0	0	0	0
Stevens Village	29	21	0	0	0	0	0	0	0	0
Birch Creek	15	10	0	0	0	0	0	0	0	0
Beaver	35	28	0	0	0	0	0	0	0	0
Fort Yukon	203	49	0	0	0	0	0	0	0	0
Venetie	55	19	0	0	0	0	0	0	0	0
Chalkyitsik	29	26	10	0	0	0	0	0	0	0
District 5	504	223	10	0	0	0	1,698	0	0	0
Survey Totals	2,484	921	35	37	12,688	14,202	1,725	8	228	305

a Households contacted indicates the number of households with complete harvest information used in estimating the salmon harvest, includes 95 percent confidence interval CI (95%).

Appendix A.10. Estimated number of salmon given away by subsistence fishermen to another subsistence household and corresponding confidence intervals for surveyed villages, Yukon Area, 1996

Community	Harvest Strata Combined		Chinook Salmon		Summer Chum Salmon		Fall Chum Salmon		Coho Salmon	
	Total Households	Households Contacted	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)
Hooper Bay	177	44	120	74	3,696	6,229	0	0	0	0
Scammon Bay	79	20	12	21	901	1,418	0	0	0	0
Coastal District	256	64	132	77	4,597	6,389	0	0	0	0
Sheldon's Point	37	27	45	40	213	168	355	291	15	16
Alakanuk	137	25	357	0	279	185	4	7	43	55
Emmonak	161	72	174	105	2,587	1,446	460	398	204	158
Kotlik	98	33	32	54	429	393	402	471	98	82
District 1	433	157	608	125	3,508	1,519	1,221	683	360	187
Mountain Village	140	39	329	266	3,571	2,155	338	335	26	42
Pikas Point	34	30	55	0	153	0	0	0	0	0
St. Mary's	124	41	370	473	2,022	1,896	180	305	0	0
Pilot Station	94	33	299	190	616	485	54	95	227	300
Marshall	65	22	113	138	70	115	0	0	41	58
District 2	457	165	1,166	592	6,432	2,914	572	463	294	308
Russian Mission	57	14	5	8	0	0	0	0	6	10
Holy Cross	64	17	140	45	103	0	143	60	0	0
Shageluk	42	15	67	79	480	677	62	29	41	61
District 3	163	46	212	91	583	677	205	67	47	62
Anvik	38	33	109	31	51	25	42	11	17	8
Grayling	64	19	302	458	0	0	39	20	0	0
Kallag	51	21	36	11	0	0	0	0	0	0
Nulato	87	29	92	113	215	252	600	527	0	0
Koyukuk	43	9	63	89	73	133	30	53	0	0
Galena	137	35	72	64	178	260	259	296	55	91
Ruby	63	16	476	5	1,035	514	108	78	0	0
Huslia	70	19	50	41	300	0	55	68	0	0
Hughes	27	24	17	4	148	104	3	2	0	0
Aliakaket	51	22	63	89	150	175	390	432	26	39
Alatna	13	8	7	3	25	16	3	3	0	0
Bettles	27	22	6	1	1	0	6	0	0	0
District 4	671	257	1,293	495	2,176	675	1,535	752	98	99
Tanana	110	46	216	129	498	147	1,841	207	772	1
Rampart	28	24	112	44	100	0	15	0	0	0
Stevens Village	29	21	82	22	41	42	71	82	0	0
Birch Creek	15	9	19	8	0	0	0	0	0	0
Beaver	35	28	112	42	3	2	0	0	0	0
Fort Yukon	203	48	734	267	0	0	960	689	0	0
Venetie	55	19	212	210	136	246	0	0	102	184
Chalkyitsik	29	26	15	3	0	0	12	8	0	0
District 5	504	221	1,502	370	778	290	2,899	724	874	184
Survey Totals	2,484	910	4,913	874	18,074	7,254	6,432	1,333	1,673	422

a Households contacted indicates the number of households with complete harvest information used in estimating the salmon harvest, includes 95 percent confidence interval, CI (95%)

Appendix A.11. Estimated number of salmon given away by test fish projects to subsistence households and corresponding confidence intervals for surveyed villages, Yukon Area, 1996. a

Community	Harvest Strata Combined		Chinook Salmon		Summer Chum Salmon		Fall Chum Salmon		Coho Salmon	
	Total Households	Households Contacted	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)	Estimated Total	CI(95%) (+/-)
Hooper Bay	177	46	0	0	0	0	0	0	0	0
Scammon Bay	79	21	0	0	0	0	0	0	0	0
Coastal District	256	67	0	0	0	0	0	0	0	0
Sheldon's Point	37	29	0	0	0	0	0	0	0	0
Alakanuk	137	26	34	51	26	48	13	22	13	22
Enimonak	161	71	566	219	4,104	1,686	532	186	281	115
Kolik	98	32	93	156	777	1,009	40	0	0	0
District 1	433	158	693	274	4,907	1,966	585	189	294	117
Mountain Village	140	40	0	0	3	0	18	29	7	11
Pitkas Point	34	31	0	0	0	0	10	0	5	0
St. Mary's	124	42	0	0	0	0	30	50	0	0
Pilot Station	94	35	2	2	62	58	2	2	2	2
Marshall	65	23	0	0	0	0	0	0	0	0
District 2	457	171	2	2	65	58	60	58	14	12
Russian Mission	57	14	0	0	0	0	0	0	0	0
Holy Cross	64	17	0	0	0	0	0	0	0	0
Shageluk	42	15	0	0	0	0	0	0	0	0
District 3	163	46	0	0	0	0	0	0	0	0
Anvik	38	33	0	0	0	0	0	0	0	0
Grayling	64	19	0	0	1,111	688	0	0	0	0
Kallag	51	21	0	0	0	0	0	0	0	0
Nulato	87	29	0	0	0	0	0	0	0	0
Koyukuk	43	10	0	0	0	0	0	0	0	0
Galena	137	35	0	0	0	0	0	0	0	0
Ruby	63	16	0	0	0	0	0	0	0	0
Huslia	70	19	0	0	0	0	0	0	0	0
Hughes	27	24	0	0	0	0	0	0	0	0
Alakaket	51	22	0	0	0	0	0	0	0	0
Alatna	13	8	0	0	0	0	0	0	0	0
Bettles	27	22	0	0	0	0	0	0	0	0
District 4	671	258	0	0	1,111	688	0	0	0	0
Tanana	110	46	30	0	0	0	0	0	0	0
Rampart	28	24	0	0	0	0	0	0	0	0
Stevens Village	29	21	0	0	0	0	0	0	0	0
Birch Creek	15	10	0	0	0	0	0	0	0	0
Beaver	35	28	0	0	0	0	0	0	0	0
Fort Yukon	203	48	0	0	0	0	136	80	0	0
Venette	55	19	0	0	0	0	0	0	0	0
Chalkyitsik	29	26	0	0	0	0	0	0	0	0
District 5	504	222	30	0	0	0	136	80	0	0
Survey Totals	2,484	922	725	274	6,083	2,083	781	214	308	117

a Households contacted indicates the number of households with complete harvest information used in estimating the salmon harvest, includes 95 percent confidence interval. CI (95%)

Appendix A.12. Summary of responses of surveyed individuals who said their household subsistence needs were not met, subsistence survey, Yukon Area, 1996.

VILLAGE	CATEGORY a	RESPONSE
Alakanuk	2	Working, no time.
Alakanuk	5	Traveling to Bethel. Have a motor but no boat.
Alakanuk	6	Handicapped, unable to fish.
Alakanuk	10	Not quite, we ate most of them up.
Alakanuk	10	I'm not satisfied. I wanted at least 300.
Alakanuk	11	No - none of your business.
Alakanuk	11	Lazy.
Alatna	14	Didn't fish.
Allakaket	1	Weren't any good salmon, and when there were, the water was too high.
Allakaket	2	Work, and sister didn't send enough fish.
Allakaket	2	___ works and ___ is afraid to run the boat to fish camp, so didn't keep net in.
Allakaket	5	Really wanted to fish, but didn't have time to set a net.
Allakaket	5	Didn't fish, busy.
Allakaket	6	Hard to get around. Husband died.
Allakaket	10	Have enough for people, but will run out of salmon for the dogs.
Anvik	2	Busy working.
Anvik	5	Would like to have gotten 40 kings. I was running around too much and not fishing.
Anvik	6	Had a stroke.
Anvik	6	Was at the hospital with a sick relative.
Anvik	6	Got sick and had to go to Aniak.
Anvik	8	Family away this summer.
Beaver	2	Been working.
Beaver	5	Too busy.
Beaver	9	Will get more from someone before we go back to Barrow
Beaver	9	Will get more from others this winter.
Beaver	11	"No reason given."
Beaver	14	Didn't fish.
Bettles	2	No time, too busy with business.
Bettles	3	Boat motor broke down.
Bettles	5	Don't have time.
Bettles	14	Never went out, can't blame anybody but ourselves.
Bettles	14	Didn't try.
Birch Creek	3	No boat.
Birch Creek	7	Kings came too early.
Birch Creek	8	Busy in Fairbanks.
Birch Creek	9	Nobody gave any to her.
Birch Creek	14	Didn't go out fishing.
Chalkyitsik	10	Didn't fish long enough.
Emmonak	2	Too busy with other jobs to cut fish. No room in my freezer.
Emmonak	2	Didn't fish, no time, working.
Emmonak	2	Busy driving cab.
Emmonak	2	Working too much.
Emmonak	2	Didn't have time, busy working.
Emmonak	3	Mechanical problems with lower unit.
Emmonak	3	No smokehouse.
Emmonak	3	No motor, no boat.

VILLAGE	CATEGORY a	RESPONSE
Emmonak	5	No freezer, no time.
Emmonak	5	No time to cut.
Emmonak	5	No babysitter.
Emmonak	6	Mother was sick, couldn't cut fish.
Emmonak	6	Sickness in the family.
Emmonak	6	We didn't fish due to my bad health - my husband doesn't want me to work too hard.
Emmonak	6	Sick, couldn't cut fish. Others were too busy.
Emmonak	6	I'm too old to fish.
Emmonak	8	Took a trip to New Mexico, didn't make strips.
Emmonak	10	Didn't fish enough.
Emmonak	10	Not enough king salmon.
Emmonak	10	Where were the kings this year? Couldn't catch enough.
Emmonak	11	Lazy.
Emmonak	14	I don't fish. I'm ill and going to the hospital again.
Emmonak	14	Didn't fish.
Fort Yukon	1	Channels were bad for fishwheel catches.
Fort Yukon	1	River channels changed, couldn't find a good spot. Didn't catch enough for dog food.
Fort Yukon	1	Bad fishwheel spot. Channel changed.
Fort Yukon	2	Busy fire fighting, had a baby, too much.
Fort Yukon	5	Didn't fish. Busy with school.
Fort Yukon	7	Weak run of king salmon. Fishing isn't as good as it used to be.
Fort Yukon	14	Didn't fish much.
Fort Yukon	14	Didn't go fishing like usual.
Fort Yukon	15	Too many deaths and potlatches.
Fort Yukon	15	Gave it all away, lots of sharing.
Galena	2	Time spent fishing in Bristol Bay.
Galena	2	Not enough time; too busy working.
Galena	5	Hunting took priority.
Galena	5	Not enough silvers; no time for fishing.
Galena	5	Too busy to fish.
Galena	5	No time for fishing. Wanted more fall chum.
Galena	5	I was too busy.
Galena	13	King run was early. Subsistence wasn't open early enough.
Galena	15	Wanted a lot more kings. Not many kings in circulation.
Grayling	5	Had a baby. Freezer shorted out and kings spoiled.
Grayling	8	Moved to McGrath.
Grayling	9	Friends going to give us 12 fall chum
Holy Cross	2	Fire fighting in Oregon all summer.
Holy Cross	11	Wasn't a good year for me.
Holy Cross	11	Big family, it's hard to say yes or no.
Hooper Bay	2	Went fire fighting.
Hooper Bay	3	Because we don't have a boat.
Hooper Bay	8	Gone most of the summer.
Hooper Bay	10	Did not go out enough.
Hooper Bay	10	Did not go out enough.
Hughes	1	Water was too high, so we didn't get enough for dogs.
Hughes	7	Poor run of salmon. Fished one day in July, caught spawned out chum, couldn't use.
Huslia	1	Water came up too quick, so we had a hard time catching fish.

VILLAGE	CATEGORY a	RESPONSE
Huslia	1	Pulled net early because of otter.
Huslia	3	Motor broken, boat has a hole.
Huslia	3	No net, no boat.
Huslia	6	Sick all last winter and summer.
Huslia	14	Just didn't fish.
Kaltag	3	Boat doesn't work very good.
Kaltag	4	Needed more help.
Kaltag	7	Kings were poor, busy during the rest of the season.
Kaltag	8	Normally get more kings for eating. Kings were early and we were out of town. Some problems with commercial openings: why not fish for [subsistence] kings during commercial openings - two different gears and locations.
Kaltag	10	Didn't fish that hard.
Kaltag	11	Wants more commercial fishing, four 24-hour periods per week. Commercial fishing is a job.
Kaltag	13	Commercial openings should be at the same time as subsistence. Kings are on the other bank than commercial. Need 40 or 50 kings (got 20).
Kotlik	2	Husband goes crabbing in Nome, no time.
Kotlik	3	Because our motor broke.
Kotlik	5	Too busy - did not cut fish all summer.
Kotlik	5	Too busy.
Kotlik	6	We had the flu, so we quit early.
Kotlik	6	Because I was at the hospital visiting my Dad who passed away 2 months ago.
Kotlik	11	Family did no subsistence fishing. He commercial fished, but didn't bring any fish home.
Koyukuk	8	Living in Fairbanks.
Koyukuk	12	Still fishing, will need 600 fish for dogs.
Marshall	3	Didn't have a boat.
Marshall	3	No boat and motor to go out.
Marshall	3	No boats.
Marshall	5	Too busy.
Marshall	8	I was away.
Marshall	10	Because I did not cut enough king salmon.
Mountain Village	2	Too busy working.
Mountain Village	4	Fishing is getting harder to do. Two sons died so he has nobody to fish for him.
Mountain Village	5	Not enough time.
Mountain Village	8	Was in school in Anchorage all summer, only need about 10 more fish.
Mountain Village	10	We didn't make very much dried fish.
Mountain Village	10	Did not make enough strips.
Mountain Village	14	Don't fish
Nulato	2	Busy working, wanted more kings.
Nulato	2	Both worked full time, stuck in town.
Nulato	2	Busy working. Didn't fish at all.
Nulato	2	Too busy working on water and sewer project.
Nulato	2	Didn't fish, working on water and sewer project.
Nulato	7	Fishing was poor, season wasn't long enough.
Nulato	10	Someone cut off their fishwheel with a net.
Nulato	10	Not enough time spent fishing.
Nulato	11	Don't know.

VILLAGE	CATEGORY a	RESPONSE
Nulato	13	Commercial openings restricted subsistence openings when fish were moving.
Nulato	13	Angry about timing of commercial openings: shut down for king preservation when the kings were already gone. Keep opening hours constant.
Nulato	13	Confusion over subsistence opening times. When open, not good fishing.
Pilot Station	2	Busy working.
Pilot Station	3	Because my motor broke down.
Pilot Station	4	Nobody to fish for me.
Pilot Station	5	Too busy.
Pilot Station	14	Didn't go to fish camp.
Pitkas Point	3	Motor broke down. Will get a new motor next spring.
Pitkas Point	3	We had motor problems.
Pitkas Point	6	Wife is ill, needs to be near a hospital. Son has a big family to feed.
Pitkas Point	10	I could have put away more.
Pitkas Point	13	Too much commercial openings. Also, too warm. Usually put away 2 buckets.
Pitkas Point	14	Because I haven't subsisted this year.
Pitkas Point	14	Because I do not fish. I choose not to fish.
Rampart	2	Busy running for office.
Rampart	7	Fish arrived too early, we started fishing too late.
Rampart	7	Early run, not ready.
Ruby	7	Kings were slow, lots of silvers.
Ruby	7	King run was too early. Murder and others passing away disrupted fishing.
Ruby	10	God's will. No kings or silvers for the table.
Russian Mission	2	I had to go to work and I didn't have any gas.
Russian Mission	10	I don't know, we might be short.
Russian Mission	10	We've got less than last year.
Scammon Bay	2	Working at electric plant.
Scammon Bay	5	Too busy.
Scammon Bay	6	We were sick.
Scammon Bay	6	Both of us got sick.
Scammon Bay	11	I don't know. We'll see how the winter goes.
Scammon Bay	14	Didn't fish for it.
Shageluk	1	Because most for dogs - bear broke into smoke house.
Shageluk	1	Bear got 600 summer chum salmon.
Shageluk	3	Broke down in beginning of season. Bear got 3/5 of fish down at camp.
Shageluk	5	Too busy.
Shageluk	11	Doesn't know!!!
Shageluk	14	Didn't fish.
Sheldon's Point	3	Poor nets.
Sheldon's Point	3	We broke down our motor.
Sheldon's Point	3	No boat, no motor, no net.
Sheldon's Point	5	Busy moving our house.
Sheldon's Point	6	Too much accidents: cut hand badly.
Sheldon's Point	10	He sold them commercially.
Sheldon's Point	10	No fish - only dog salmon. Just caught dog salmon, wanted kings.
Sheldon's Point	10	Last year we went through 40 gal. of chum; this year we don't have as much.
Sheldon's Point	10	Because we start eating a lot more dried fish. Our neighbor helps us eat it.
Sheldon's Point	11	"No reason given."
Sheldon's Point	14	Haven't been active.

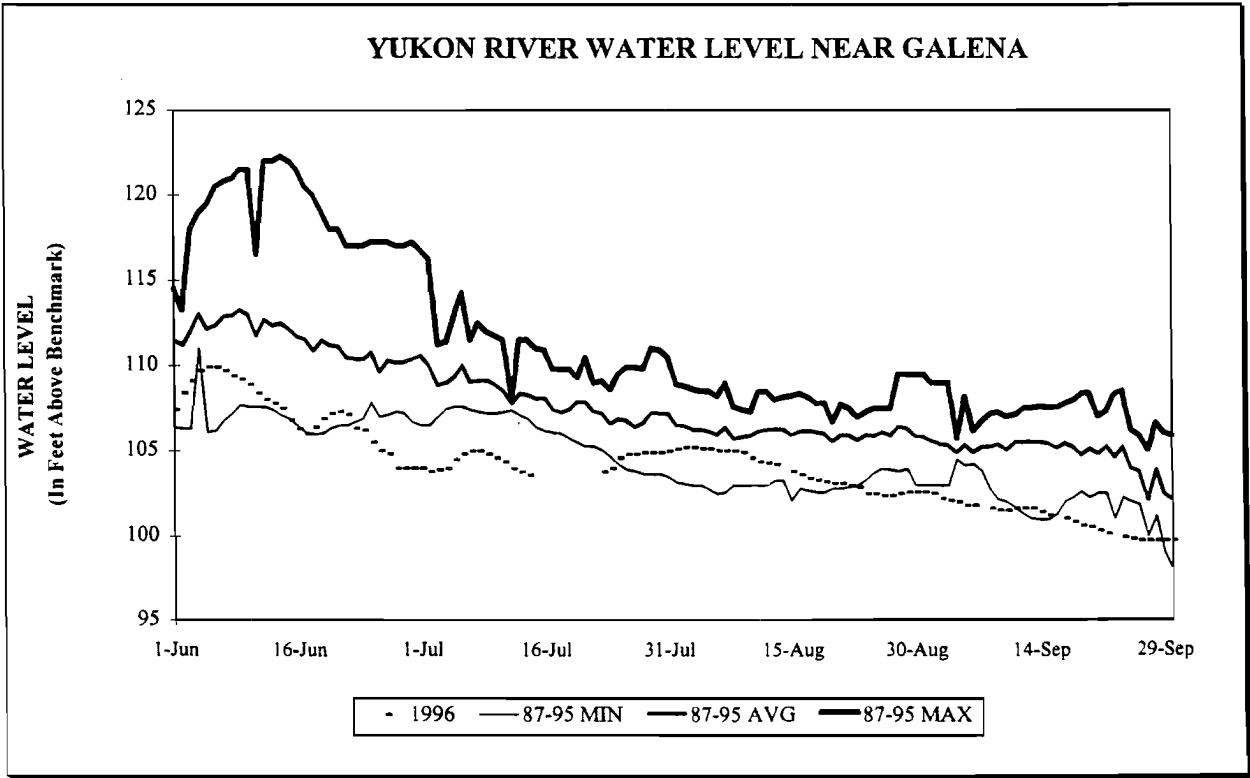
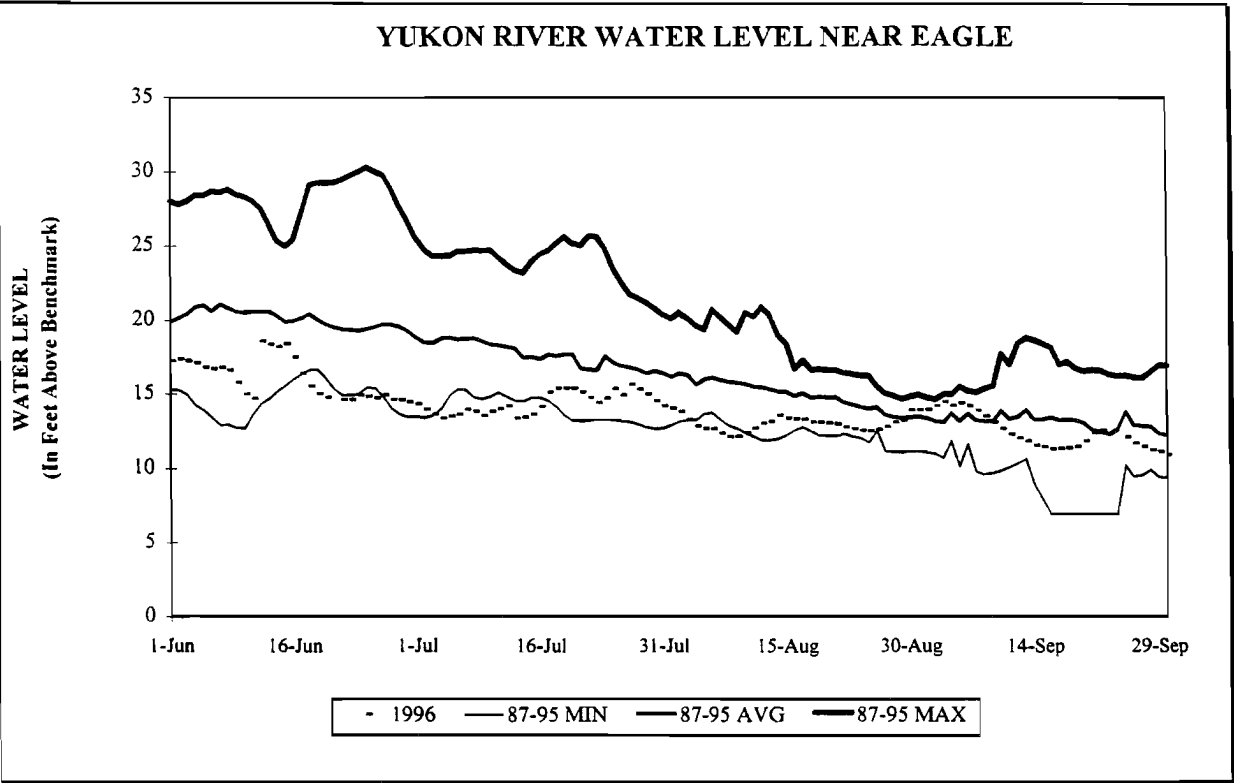
VILLAGE	CATEGORY a	RESPONSE
Sheldon's Point	14	I really don't collect salmon.
St. Mary's	2	Worked at Andreafsky weir.
St. Mary's	2	Too busy working for the Police Department.
St. Mary's	2	Worked for Fish & Wildlife on Andreafsky weir.
St. Mary's	2	Job related.
St. Mary's	3	No transportation or time.
St. Mary's	4	Person who usually fished for them passed away.
St. Mary's	5	Busy.
St. Mary's	5	Busy building a house.
St. Mary's	5	Didn't have enough time, or a boat. Couldn't get hubby motivated.
St. Mary's	5	We didn't have the time.
St. Mary's	8	Husband was out of town all summer.
St. Mary's	11	Expected Pilot Station Sonar would donate 200 to 300 salmon.
St. Mary's	14	I don't fish.
St. Mary's	14	Neighbor/friend says he doesn't do any fishing at all.
St. Mary's	15	Because of my huge family, five of them, and they have their families to feed too.
Stevens Village	6	Elderly. Will need more fish for dogs.
Stevens Village	6	Elderly.
Stevens Village	6	Had pneumonia, no one to help her.
Stevens Village	6	Elderly.
Stevens Village	7	Seemed like there weren't any fish this year, the run was early.
Stevens Village	8	Was gone all summer.
Stevens Village	10	Have fish to feed dogs only 3/4 of the winter. Have enough for human consumption.
Stevens Village	11	"No reason given."
Stevens Village	11	Want more strips.
Stevens Village	14	Didn't fish. Didn't go to camp this year.
Stevens Village	14	The family didn't go to fish camp this year.
Stevens Village	14	Didn't fish.
Tanana	1	Water too high, too much drift when run came through, went up middle.
Tanana	2	Worked rather than fished. Wanted more kings.
Tanana	2	Got city job during the summer.
Tanana	3	Freezer out, no boat, motor out.
Tanana	3	High cost of gas.
Tanana	3	Need some, but no boat or motor.
Tanana	5	Didn't get it together in time. Out of sync with fishing season.
Tanana	5	Too busy with other projects to fish.
Tanana	5	Not enough time for fishing.
Tanana	5	Baby threw a wrench into fishing plans.
Tanana	7	Kings came early. Could have used more.
Tanana	8	Wasn't in town.
Tanana	14	Did not fish that much.
Venetie	1	Water too shallow.
Venetie	2	Working, didn't fish.
Venetie	4	Son worked up north all summer, usually takes her fishing.
Venetie	5	Too busy with other projects.
Venetie	7	Both kings and fall chum had a poor run.

Appendix A.12. (page 6 of 6)

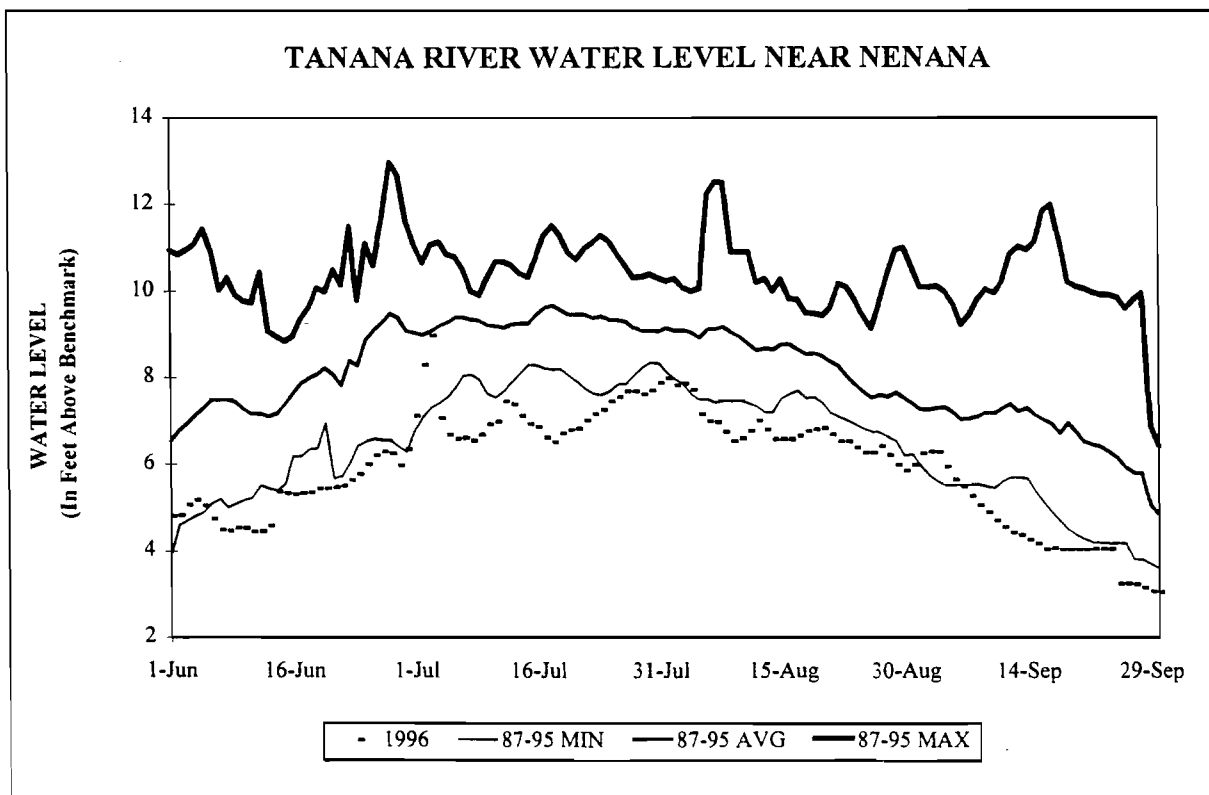
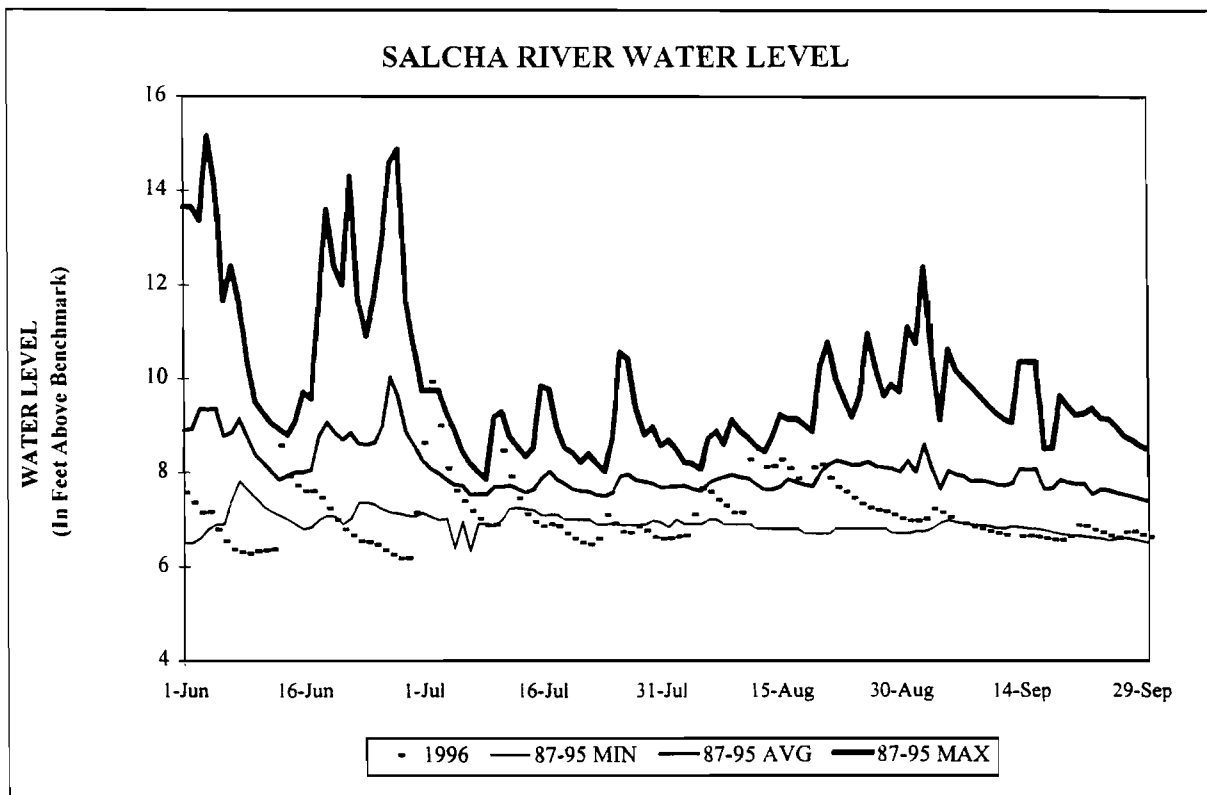
a Responses were categorized into one of the following categories:

<u>Category</u>	<u>Response</u>
1	Due to Mother Nature, i.e., high water, early freeze-up
2	Working in another occupation
3	No gear - boat, net, motor, gas
4	No helper to harvest or process fish
5	Busy doing other things
6	Medical reasons or elderly
7	Poor run of fish
8	Out of town
9	Will buy or be given more fish
10	Not enough fish caught
11	Miscellaneous reasons not in other categories
12	Still fishing
13	Department Fishing Regulations/Restrictions
14	Didn't fish - normally don't use fish
15	Not enough available to share/barter

Appendix A. 13. Water levels for the Yukon River drainage at select locations.



-Continued-



APPENDIX B

YUKON RIVER DRAINAGE HISTORICAL SUBSISTENCE AND PERSONAL USE SALMON HARVESTS

Appendix B.1 Estimated chinook salmon subsistence harvest in numbers of fish by village, Yukon Area, 1985-1996. a

Village	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1986-1990 Average	1991-1995 Average
Hooper Bay			2,783	1,099 b	14 b			503	230	157	1,500	1,127	1,941 c	598 d
Scammon Bay			838	489 b	2 b			948	1,199	668	585	1,238	664 c	850 d
<i>Coastal District Subtotal</i>			3,621	1,588	16			1,451	1,429	825	2,085	2,365	2,605	1,448
Sheldon Pt.	143	592	1,173	302	165	756	445	388	561	606	459	450	598	492
Alakanuk	517	1,027	1,180	738	820	871	1,044	623	2,562	1,045	1,191	662	927	1,293
Emmonak	1,382	1,754	2,518	1,766	1,598	1,873	1,311	2,336	4,372	2,384	1,711	702	1,906	2,423
Kolik	1,029	1,902	2,407	1,112	1,982	3,119	3,125	1,794	2,913	2,505	2,599	1,832	2,104	2,587
<i>District 1 Subtotal</i>	3,071	5,275	7,278	3,938	4,565	6,619	5,925	5,141	10,408	6,540	5,960	3,646	5,535	6,795
Mt. Village	672	1,367	2,252	740	2,001	1,792	1,171	1,249	3,217	1,511	1,542	1,315	1,630	1,738
Pikias Pt./St. Marys	778	1,717	2,457	1,378	2,184	2,476	2,488	2,604	3,043	3,191	2,590	2,528	2,042	2,783
Pilot Station	896	1,452	2,593	674	1,498	3,786	2,681	1,818	2,661	1,977	1,614	1,811	2,001	2,150
Marshall	1,122	1,947	2,564	1,031	1,464	1,492	1,277	1,403	2,592	2,277	3,291	2,126	1,700	2,168
<i>District 2 Subtotal</i>	3,468	6,483	9,866	3,823	7,147	9,546	7,617	7,074	11,513	8,956	9,037	7,780	7,373	8,839
Russian Mission	974	1,747	2,036	1,850	2,367	1,694	1,349	1,282	3,273	1,793	2,450	2,709	1,939	2,029
Holy Cross	2,368	2,505	2,825	2,593	2,379	2,337	1,649	3,491	3,191	4,040	2,808	3,953	2,488	3,036
Shageluk		53	47	104	32	62	189	218	128	291	161	121	60	197
<i>District 3 Subtotal</i>	3,342	4,305	4,708	4,547	4,778	4,093	3,187	4,991	6,592	6,124	5,419	6,783	4,486	5,263
<i>Lower Yukon Area Total</i>	9,881	16,063	25,473	13,896	16,506	20,258	16,729	18,657	29,942	22,445	22,501	20,574	19,999	22,344
Anvik	405	959	428	211	418	481	619	389	663	424	450	768	499	509
Grayling	803	1,837	1,322	1,571	1,082	144	874	1,074	1,045	1,843	1,340	1,036	1,191	1,235
Kallag	669	1,060	1,117	1,168	1,306	2,244	1,866	1,084	1,260	1,653	1,890	994	1,383	1,551
Nulato	1,063	1,835	1,573	1,986	2,079	2,788	2,500	1,596	1,660	1,735	1,533	1,461	2,052	1,805
Koyukuk	194	569	609	711	1,003	876	885	510	853	589	146	402	754	597
Galena	1,329	1,046	1,270	1,982	1,374	3,134	2,574	1,870	1,732	1,834	1,336	2,770	1,761	1,869
Ruby/Kokines	1,657	1,263	927	1,402	1,016	811	971	498	3,263	1,539	1,435	557	1,084	1,541
<i>Bonasia R. to Illinois Cr. Subtotal (Excluding the Koyukuk River)</i>	6,220	8,589	7,246	9,031	8,278	10,478	10,289	7,021	10,476	9,617	8,130	7,988	8,724	9,107
Huslia	144	82	182	89	177	198	198	751	232	239	932	67	146	470
Hughes	778	296	177	29	181	90	146	29	88	107 e	77	54	155	74
Alakaket/Alaina f	283	563	309	366	438	356	451	437	139	364 e	331	84	406	287
Bettles				0	0	0	16	53	1	0	4	0	0 x	15
<i>Koyukuk River Subtotal</i>	1,205	941	668	484	796	644	811	1,270	460	710	1,344	205	707	847
<i>District 4 Subtotal</i>	7,425	9,530	7,914	9,515	9,074	11,122	11,100	8,291	10,936	10,327	9,474	8,193	9,431	9,953

-Continued-

Appendix B.1. (page 2 of 2)

Village	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1986-1990 Average	1991-1995 Average
Tanana	1,248	1,672	4,021	3,537	3,008	2,284	2,483	2,477	3,362	2,999	2,398	2,741	2,904	2,744
Rampart	1,302	1,700	2,815	3,145	3,177	1,481	988	2,802	1,956	1,354	1,461	1,751	2,464	1,712
Fairbanks (permits) g h	1,865	1,762	613	0	200	420	982	1,394	1,514	1,920	1,447	1,166	599	1,451
Stevens Village	2,763	2,839	2,076	2,845	3,101	1,295	2,035	1,887	1,754	2,814	2,674	681	2,431	2,233
Birch Creek				0 b	0		196	44	0	119	93	0	0	90
Beaver	506	708	466	940	1,694	721	713	1,564	1,557	850	1,021	886	906	1,141
Fl. Yukon	2,900	3,083	3,950	2,245	4,888	4,051	5,585	4,122	6,361	4,727	3,132	4,957	3,645	4,785
Circle/Central (permits) h	2,259	2,233	1,614	2,034	1,785	1,951	1,871	1,752	955	1,617	1,316	1,912	1,923	1,502
Eagle (permits) h	2,247	1,915	1,988	2,333	2,385	1,742	1,193	1,040	753	1,234	1,886	1,092	2,073	1,221
Other (permits) h i						615	374	571	437	602	1,004	377	615	598
<i>Illinois Cr. to U.S. Can. Border Subtotal (Excluding Chandalar/Black Rivers)</i>	15,090	15,912	17,543	17,079	20,248	14,560	16,420	17,653	18,649	18,236	16,432	15,563	17,560	17,478
Venette		32	13	121	88	29	9	35	2,716	524	434	134	57	744
Chalkyitsik		0	0	0	0	0	0	3	0	0	0	30	0	1
<i>Chandalar/Black Rivers Subtotal</i>		32	13	121	88	29	9	38	2,716	524	434	164	57	744
<i>District 5 Subtotal</i>	15,090	15,944	17,556	17,200	20,336	14,589	16,429	17,691	21,365	18,760	16,866	15,727	17,225	17,767
Manley j	744	621	40	572	992	1,169	401	551	238	480	335	134	679	401
Minto j	1,366	350	374	466	366	100	134	142	468	316	535	523	331	319
Nenana j	4,919	2,093	3,151	3,846	1,188	1,265	1,599	1,267	693	759	607	423	2,309	985
Fairbanks (permits) h k	326	637	531	0	0	84	378	402	273	775	285	97	250	423
Other j l			0	0	0	0	3	76	0	40	17	0	0	27
<i>Tanana River District 6 Subtotal</i>	7,375	3,701	4,096	4,864	2,546	2,618	2,515	2,438	1,672	2,370	1,779	1,177	3,569	2,155
<i>Upper Yukon Area Total</i>	29,890	29,175	29,566	31,599	31,956	28,329	30,044	28,420	33,973	31,457	28,119	25,087	30,225	29,875
<i>Alaska Yukon Area Total</i>	39,771	45,238	55,039	45,495	48,462	48,587	46,773	47,077	63,915	53,902	50,620	45,671	50,224	52,219

a More detailed documentation of the estimated subsistence harvests are available in each years respective Yukon Area Annual Management Report (1961 to 1995).

Beginning in 1988 subsistence salmon harvest estimates have been generated from a stratified random sample of village households. Numbers include test fish catches given away.

Blanks indicate harvest information was not collected.

b The village was not surveyed, harvest estimates were calculated from calendar and post card replies.

c 1987 and 1988 average harvest.

d 1992-1995 average harvest.

e Due to floods in 1994, Hughes, Allakaket, and Alaina were not surveyed. The 1994 chinook salmon harvest is estimated using 5 year average 1989-1993

f Alaina combined with Allakaket.

g Harvests by Fairbanks subsistence permit holders that fished in District 5 of the Yukon River

h Salmon catches expanded for permits not returned and household interviews (1981-1989) Beginning in 1990, reported harvest is from returned permits only.

i Other permit holders that fished in District 5 but did not reside in the villages listed.

j Permits required beginning in 1988 for Subdistricts 6-A and 6-B. In 1988 and 1989, permit and household interview data were expanded. Beginning in 1990, reported harvest is from returned permits only.

k Harvests by Fairbanks subsistence permit holders that fished in the Tanana River. Permits required beginning in 1964 for the Tanana River upstream of the Wood River.

l Other permit holders that fished in District 6 but did not reside in the villages listed

x 1989 and 1990 average harvest.

Appendix B.2 Estimated summer chum salmon subsistence harvest in numbers of fish by village, Yukon Area, 1985-1996 a

Village	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1985-1990 Average	1991-1995 Average
Hooper Bay			23,468	23,059 b	2,293 b			12,900	16,106	10,556	13,374	15,870	23,264 c	13,187 d
Scammon Bay			6,200	8,171 b	48 b			3,795	4,692	4,347	3,966	6,365	7,186 c	4,278 d
<i>Coastal District Subtotal</i>			29,668	31,230	2,341			16,695	20,798	14,903	17,360	22,235	30,449	17,465
Sheldon Pt.	1,717	4,755	2,460	2,569	4,314	1,458	2,226	1,415	2,362	1,941	2,979	2,634	3,115	2,185
Aiakanuk	7,702	11,280	9,913	6,992	12,108	7,265	8,058	9,951	8,935	9,947	10,538	6,171	9,512	8,686
Emonak	8,742	12,618	11,177	10,528	22,985	15,215	8,401	12,296	15,568	13,060	11,696	6,097	14,505	12,204
Kolik	6,188	10,201	7,210	8,825	13,437	13,061	9,105	9,577	7,121	11,197	9,777	12,387	10,547	9,355
<i>District 1 Subtotal</i>	24,349	38,854	30,760	28,934	52,844	36,999	27,790	33,239	33,966	32,145	34,990	27,289	37,678	32,430
Mt. Village	6,745	11,468	12,456	9,248	15,869	9,950	4,743	7,864	10,505	3,938	10,554	9,285	11,798	7,521
Pikas Pt./St. Marys	7,556	14,986	12,402	10,501	13,124	9,515	9,284	8,555	7,406	11,231	7,615	8,365	12,106	8,818
Pilot Station	3,133	7,870	4,279	4,242	6,783	6,698	4,634	6,236	5,641	5,450	4,427	6,355	5,974	5,278
Marshall	2,361	7,172	3,997	4,796	3,927	2,290	2,042	2,076	1,745	2,288	4,594	4,431	4,436	2,549
<i>District 2 Subtotal</i>	19,795	41,496	33,134	28,787	39,703	28,453	20,703	24,731	25,297	22,907	27,190	28,426	34,315	24,166
Russian Mission	1,817	3,136	2,283	2,794	2,229	2,146	837	3,331	1,938	801	3,653	3,554	2,518	2,092
Holy Cross	1,870	2,392	1,878	3,036	1,753	857	1,028	1,001	1,517	1,479	948	1,700	1,983	1,195
Shageluk		6,710	8,015	8,779	8,842	6,518	3,680	5,267	4,183	6,212	7,542	6,114	7,773	5,377
<i>District 3 Subtotal</i>	3,687	12,238	12,176	14,609	12,824	9,521	5,545	9,599	7,538	8,492	12,143	11,368	12,274	8,663
<i>Lower Yukon Area Total</i>	47,831	92,588	105,738	103,560	107,712	74,973	54,038	84,264	87,619	78,447	91,683	89,318	114,715	82,724
Anvik	24,950	41,581	28,887	12,607	410	2,032	876	1,142	1,735	907	9	185	17,103	934
Grayling	23,937	35,284	21,264	22,634	14,570	1,430	8,094	3,605	1,137	1,418	3,385	587	19,036	3,528
Katag	26,965	24,667	28,560	3,592	632	6,956	2,287	1,204	1,116	3,683	139	31	12,879	1,886
Niutao	16,315	10,349	16,299	10,201	200	502	159	889	15	975	228	1,003	7,510	453
Koyukuk	9,666	6,250	9,718	284	381	283	2,326	1,130	230	2,039	315	41	3,383	1,208
Galena	16,212	6,618	11,776	7,413	6,216	1,760	3,493	3,232	2,477	1,198	1,954	3,902	6,757	2,471
Ruby/Kokines	13,556	7,863	8,786	4,010	1,844	351	1,352	2,420	1,459	4,586	4,445	2,016	4,575	2,852
<i>Bonasia R. to Illinois Cr. Subtotal (Excluding the Koyukuk River)</i>	131,601	132,632	125,280	60,741	24,253	13,314	18,587	13,622	8,169	14,806	10,475	7,765	71,244	13,132
Huslia	13,430	10,516	11,042	14,896	10,005	7,368	7,857	13,670	8,343	6,014	4,885	2,372	10,765	8,154
Hughes	12,788	7,280	4,369	2,445	3,687	509	1,257	1,625	827	1,581 e	2,448	1,411	3,658	1,290
Aiakaket/Alatna f	7,564	8,934	8,700	8,524	2,915	5,319	7,413	6,868	2,703	5,042 e	6,536	4,877	6,878	4,759
Bettles					75	24	155	37	34	45	740	0	50 x	202
<i>Koyukuk River Subtotal</i>	33,782	26,730	24,111	25,864	16,682	13,220	16,682	22,190	11,907	12,682	14,609	8,660	21,351	14,404
<i>District 4 Subtotal</i>	165,383	159,362	149,391	86,605	40,935	26,534	35,269	35,812	20,076	27,488	25,084	16,425	92,595	27,536

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Appendix B 2. (page 2 of 2)

Village	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1986-1990 Average	1991-1995 Average
Tanana	11,148	11,546	10,876	13,972	7,756	5,905	2,779	4,553	4,245	7,022	3,660	5,190	10,031	4,452
Rampart	5,133	1,450	2,434	3,363	28	58	20	4,494	1,489	559	1,168	1,188	1,471	1,546
Fairbanks (permits) g h	2,027	1,382	1,493	0	0	25	1,068	706	485	380	722	2,958	580	664
Stevens Village	3,046	3,116	1,446	865	2,375	1,671	1,385	460	653	459	158	530	1,895	623
Beaver	263	0	657	214	124	108	2,355	12	134	655	36	572	221	638
Ft. Yukon	4,410	3,264	1,187	7,717	1,760	145	11,974	1,700	3,830	2,043	998	26 i	2,815	4,109
Circle/Central (permits) h	930	459	2,078	871	361	1,267	51	356	85	106	72	324	1,007	134
Eagle (permits) h	39	516	417	1,273	547	361	607	23	32	38	57	105	623	151
Other (permits) h j						187	32	291	24	21	232	616	187	120
<i>Illinois Cr. to U.S. Can. Border Subtotal (Excluding Chandalar/Black Rivers)</i>	26,996	21,833	20,588	28,295	12,951	9,727	20,271	12,595	10,957	11,263	7,103	11,509	18,828	12,438
Venetie	0	0	0	701	30	0	3,393	0	129	567	552	0	146	928
Chalkyitsik	0	0	0	327	0	90	500	17	0	0	0	0	83	103
<i>Chandalar/Black Rivers</i>														
<i>Subtotal</i>	0	0	0	1,028	30	90	3,893	17	129	567	552	0	230	1,032
<i>District 5 Subtotal</i>	26,996	21,833	20,588	29,323	12,981	9,817	24,164	12,612	11,086	11,830	7,655	11,509	19,058	13,469
Manley k	856	604	267	3,731	2,457	2,250	1,716	850	1,310	1,405	1,657	1,219	1,862	1,388
Minto k	5,291	1,587	1,383	947	1,425	500	748	625	367	509	1,320	1,421	1,168	714
Nenana k	15,825	10,827	21,214	5,654	3,986	1,383	1,499	6,372	5,019	1,352	5,043	4,411	8,613	3,857
Fairbanks h l	2,646	4,024	1,461	0	0	152	1,096	1,342	97	3,693	3,528	392	1,127	1,951
Other k m				0	0	0	10	315	0	67	113	43	0	101
<i>Tanana River</i>														
<i>District 6 Subtotal</i>	24,618	17,042	24,325	10,332	7,868	4,285	5,069	9,504	6,793	7,026	11,661	7,486	12,770	8,011
<i>Upper Yukon Area Total</i>	216,997	198,237	194,304	126,260	61,784	40,636	64,502	57,928	37,955	46,344	44,400	35,420	124,424	49,016
<i>Alaska Yukon Area Total</i>	264,828	290,825	300,042	229,820	169,496	115,609	118,540	142,192	125,574	124,791	136,083	124,738	239,139	131,740

a More detailed documentation of the estimated subsistence harvests are available in each year's respective Yukon Area Annual Management Report (1961 to 1993). The 1994 and 1995 data is preliminary.

Beginning in 1988 subsistence salmon harvest estimates have been generated from a stratified random sample of village households. Numbers include test fish catches given away.

District 4 summer chum salmon subsistence harvest estimates prior to 1988 and District 5 and 6 prior to 1989 included commercially caught summer chum salmon carcasses retained for subsistence use.

Beginning in 1988 and 1989, efforts were made to exclude commercial carcasses from subsistence harvest estimates. Blanks indicate harvest information was not collected.

b The village was not surveyed, harvest estimates were calculated from calendar and post card replies.

c 1987 and 1988 average harvest.

d 1992-1995 average harvest.

e Due to floods in 1984, Hughes, Allakaket, and Alaina were not surveyed. 1994 summer chum salmon harvest is estimated using 5 year average 1989-1993.

f Alaina combined with Allakaket.

g Catches by Fairbanks subsistence use permit holders that fished in District 5 of the Yukon River.

h Salmon catches expanded for permits not returned and household interviews (1981-1989). Beginning in 1990, reported harvest is from returned permits only.

i Includes Birch Creek.

j Other permit holders that fished in District 5 but did not reside in the villages listed.

k Permits required beginning in 1988 for Subdistricts 6-A and 6-B. In 1988 and 1989, permit and household interview data were expanded. Beginning in 1990, reported harvest is from returned permits only.

l Catches by Fairbanks subsistence use permit holders that fished in the Tanana River. Permits required beginning in 1964 for the Tanana River upstream of the Wood River.

m Other permit holders that fished in District 6 but did not reside in the villages listed.

x 1989 and 1990 average harvest

Appendix B 3 Estimated fall chum salmon subsistence harvest in numbers of fish by village, Yukon Area, 1985-1996 a

Village	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1986-1990 Average	1991-1995 Average
Hooper Bay Scammon Bay			105 117	1,711 b 551 b	146 b 10 b			127 79	113 7	284 63	207 147	392 0	908 c 334 c	183 d 74 d
<i>Coastal District Subtotal</i>			222	2,262	156			206	120	347	354	392	1,242	257
Sheldon Pt.	713	259	882	289	586	102	84	490	158	25	256	21	353	203
Alakanuk	2,603	2,030	3,748	1,194	430	267	193	401	182	73	401	100	1,278	296
Ermonak	4,539	2,746	8,160	1,792	840	2,353	2,027	1,628	1,507	3,441	1,614	1,501	2,649	2,043
Kolik	5,420	3,965	5,677	2,200	3,058	2,613	1,631	2,697	5,923	1,348	2,197	2,525	2,919	2,759
<i>District 1 Subtotal</i>	13,275	9,000	18,467	5,475	4,914	5,335	3,935	5,216	7,770	4,887	4,698	4,147	7,199	5,301
Mt. Village	3,591	2,947	4,897	1,880	4,641	1,566	1,473	1,052	1,113	797	1,347	1,366	2,655	1,156
Pitkas Pt./St. Marys	3,315	5,401	3,966	2,533	1,970	956	2,202	77	708	1,356	641	1,261	2,471	997
Pilot Station	1,957	1,663	583	1,372	1,872	1,941	1,062	3,526	1,017	1,527	575	448	1,239	1,541
Marshall	2,681	3,472	4,008	2,815	1,532	1,724	891	2,727	256	471	754	2,212	2,259	1,020
<i>District 2 Subtotal</i>	11,544	13,483	13,454	8,600	10,015	6,187	5,628	7,382	3,094	4,151	3,317	5,287	8,623	4,714
Russian Mission	1,266	637	1,255	1,151	308	878	425	648	172	11	865	587	705	424
Holy Cross	1,024	1,148	1,598	596	711	1,178	190	845	1,066	665	681	1,814	872	689
Shageluk	0	370	434	0	4	0	0	865	211	186	126	305	135	278
<i>District 3 Subtotal</i>	2,290	2,155	3,287	1,747	1,023	2,056	615	2,358	1,449	862	1,672	2,706	1,711	1,391
Lower Yukon Total	27,109	24,638	35,430	18,084	16,108	13,578	10,178	15,162	12,433	10,247	10,041	12,532	18,775	11,664
Anvik	2,125	913	394	136	168	583	452	894	420	155	269	457	366	438
Grayling	3,106	4,204	4,750	1,760	830	1,405	3,616	2,993	2,083	811	1,155	1,759	2,158	2,132
Kallag	1,570	2,024	2,474	2,293	1,654	2,327	2,834	2,522	704	630	644	1,049	2,629	1,467
Nulato	4,240	1,762	2,200	1,673	2,436	3,546	1,637	1,910	571	1,109	1,137	2,289	1,936	1,273
Koyukuk	798	2,195	2,492	587	2,460	860	2,761	2,817	2,052	1,049	814	2,458	1,432	1,899
Galena	4,476	4,819	10,509	4,308	6,436	3,202	5,525	2,393	3,255	3,963	3,202	6,620	4,879	3,668
Ruby/Kokines	6,717	7,101	11,000	5,171	6,599	3,352	2,856	4,499	1,085	5,553	4,695	561	5,537	3,738
<i>Bonasia R. to Illinois Cr. Subtotal (Excluding the Koyukuk River)</i>	23,032	23,018	38,819	15,928	20,583	15,275	19,681	18,028	10,170	13,270	11,916	15,203	18,937	14,613
Huslia	276	808	585	1,697	1,728	846	411	1,286	258	55	1,035	298	944	609
Hughes	1,260	1,422	586	311	260	70	270	325	169	219 e	263	274	442	208
Alakakei/Alaina f	707	878	1,477	443	1,969	3,050	513	1,579	235	1,469 e	260	961	1,303	676
Bellies					0	0	0	14	0	0	583	50	0 x	119
<i>Koyukuk River Subtotal</i>	2,243	3,108	2,648	2,451	3,957	3,966	1,194	3,204	662	1,743	2,141	1,583	2,688	1,612
<i>District 4 Subtotal</i>	25,275	26,126	41,467	18,379	24,540	19,241	20,875	21,232	10,832	15,013	14,057	16,786	21,626	16,225

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Appendix B.3. (page 2 of 2)

Village	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1986-1990 Average	1991-1995 Average
Tanana	28,113	32,049	41,825	55,998	40,845	41,145	40,868	19,365	23,103	34,681	14,409	21,420	35,310	26,485
Rampart	19,619	3,950	5,092	3,600	2,472	10,818	5,801	5,701	3,272	1,007	1,403	896	4,322	3,437
Fairbanks (permits) g h	13,874	11,708	5,264	0	7	82	2,022	2,491	930	2,870	2,184	2,727	2,844	2,099
Slevens Village	11,679	4,150	7,538	1,451	6,633	3,657	2,481	150	862	45	3,194	991	3,938	1,346
Beaver	1,761	3,321	5,750	96	7,242	757	7	361	692	2,069	1,231	9	2,861	872
Ft. Yukon	12,719	8,543	15,200	2,766	27,790	11,627	7,467	2,284	2,380	6,827	9,196	8,144 i	10,988	5,631
Circle/Central (permits) h	4,036	3,650	7,691	4,396	4,478	6,804	6,413	6,379	349	4,581	5,102	5,440	4,503	4,565
Eagle (permits) h	25,264	16,027	19,678	14,600	11,557	8,027	7,985	5,630	2,070	8,263	13,115	14,916	11,862	7,413
Other (permits) h j						529	100	0	1,750	0	830	505	265	536
Illinois Cr. to U.S. Can. Border Subtotal (Excluding Chandalar/Black Rivers)	117,125	83,398	108,038	83,107	101,024	83,646	73,144	42,361	35,408	60,343	50,664	55,048	76,712	52,384
Venelle		3,193	2,774	34	7,977	5,377	758	3,066	7,881	4,302	6,085	7,195	3,871	4,418
Chalkyitsik		1,533	2,686	1,068	3,000	1,490	100	274	475	1,751	845	1,230	1,955	689
Chandalar/Black Rivers Subtotal	4,726	5,460	5,460	1,102	10,977	6,867	858	3,340	8,356	6,053	6,930	8,425	5,826	5,107
District 5 Subtotal	117,125	88,124	113,498	84,209	112,001	90,513	74,002	45,701	43,764	66,396	57,594	63,473	82,538	57,491
Manley j	6,560	5,905	4,267	6,899	21,087	25,860	13,243	7,010	3,215	13,722	20,272	10,662	10,670	11,492
Minto j	4,642	545	5,419	2,615	2,005	3,652	5,276	3,017	301	1,419	4,782	4,381	2,847	2,959
Nenana j	22,901	15,902	26,909	26,889	25,340	12,464	17,932	13,253	5,929	11,201	15,500	14,207	17,917	12,763
Fairbanks (permits) h l	2,860	2,803	0	0	0	309	1,671	1,394	56	5,006	6,384	5,736	519	2,902
Other k m					10,222	2,283	2,347	1,039	352	2,249	2,230	1,481	4,168	1,643
Tanana River District 6 Subtotal	36,963	25,155	36,595	36,403	58,654	44,568	40,469	25,713	9,853	33,597	49,168	36,467	36,121	31,760
Upper Yukon Total	179,363	139,405	191,560	138,991	195,195	154,322	135,346	92,646	64,449	115,006	120,819	116,726	140,285	105,476
Alaska Total	206,472	164,043	226,990	157,075	211,303	167,900	145,524	107,808	76,882	125,253	130,860	129,258	159,060	117,140

- a More detailed documentation of the estimated subsistence harvests are available in each years respective Yukon Area Annual Management Report (1961 to 1995).
Beginning in 1988 subsistence salmon harvest estimates have been generated from a stratified random sample of village households. Numbers include test fish catches given away. Includes commercial related harvest to produce roe sold, 1982-1988. Blanks indicate harvest information was not collected.
- b The village was not surveyed, harvest estimates were calculated from calendar and post card replies.
- c 1987 and 1988 average harvest.
- d 1992 through 1995 average harvest.
- e Due to floods in 1994, Hughes, Allakaket, and Alaina were not surveyed. The 1994 fall chum salmon harvest is estimated using 5 year average 1989-1993.
- f Alaina combined with Allakaket.
- g Harvests by Fairbanks subsistence use permit holders that fished in District 5 near the Yukon River bridge crossing.
- h Salmon catches expanded for permits not returned and household interviews (1981-1989). Beginning 1990, reported harvest is from returned permits only.
- i Includes Birch Creek.
- j Other permit holders that fished in District 5 but did not reside in the villages listed.
- k Permits required beginning in 1988 for Subdistricts 6-A and 6-B. In 1988 and 1989, permit and household interview data were expanded. Beginning in 1990, reported harvest is from returned permits only.
- l Harvests by Fairbanks subsistence use permit holders that fished in the Tanana River. Permits required beginning in 1964 for the Tanana River upstream of the Wood River.
- m Other permits holders that fished in District 6 but did not reside in the villages listed.
- x 1989 and 1990 average harvest.

Appendix B 4 Estimated coho salmon subsistence harvest in numbers of fish by village, Yukon Area, 1985-1996 a

Village	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1986-1990 Average	1991-1995 Average
Hooper Bay			69	1,523 b	211 b			28	0	1	48	92	796 c	19 d
Scammon Bay			64	326 b	2 b			31	40	80	104	0	195 c	64 d
<i>Coastal District Subtotal</i>			133	1,849	213			59	40	81	152	92	991	83
Sheldon Pt	49	237	308	169	487	78	35	441	78	52	419	138	256	205
Alakanuk	894	1,518	1,116	634	334	156	391	966	138	94	658	103	752	449
Emmonak	1,552	732	3,497	1,578	1,259	1,283	801	666	196	959	485	594	1,670	621
Kolik	751	238	1,475	2,008	2,997	1,784	581	3,353	1,931	2,167	689	1,610	1,700	1,744
<i>District 1 Subtotal</i>	3,246	2,725	6,396	4,389	5,077	3,301	1,808	5,426	2,343	3,272	2,251	2,445	4,378	3,020
Mt. Village	1,527	828	2,481	1,314	2,385	1,754	868	1,971	447	968	921	276	1,752	1,035
Pitkas Pt/St. Marys	1,113	4,832	1,740	3,147	971	515	1,617	2,771	451	978	708	963	2,241	1,305
Pilot Station	710	1,514	300	876	379	1,968	553	300	477	811	241	1,258	1,007	476
Marshall	1,484	1,966	2,373	1,767	1,304	2,107	259	1,545	320	1,124	272	958	1,903	704
<i>District 2 Subtotal</i>	4,834	9,140	6,894	7,104	5,039	6,344	3,297	6,587	1,695	3,881	2,142	3,475	6,904	3,520
Russian Mission	276	679	423	604	20	688	396	1,148	152	55	891	255	483	528
Holy Cross	100	102	259	935	517	338	944	105	88	171	0	0	430	262
Shageluk		173	72	128	0	0	0	296	39	137	0	189	75	94
<i>District 3 Subtotal</i>	376	954	754	1,667	537	1,026	1,340	1,549	279	363	891	444	988	884
Lower Yukon Total	8,456	12,819	14,177	15,009	10,866	10,671	6,445	13,621	4,357	7,597	5,436	6,456	12,265	8,538
Anvik	272	296	405	97	40	236	347	202	115	95	10	44	215	154
Grayling	0	860	599	692	969	10	1,363	859	164	36	97	236	626	504
Kallatag	0	229	0	0	792	501	1,260	2,105	334	245	426	298	304	874
Nulato	510	69	85	234	276	845	75	435	37	27	25	149	302	120
Koyukuk	120	154	894	10	110	162	307	1,877	70	305	33	476	266	518
Galena	1,072	465	1,349	1,029	415	572	422	1,398	124	803	275	760	766	604
Ruby/Kokines	1,719	339	0	2,169	1,069	974	410	1,299	308	1,957	607	376	910	916
<i>Bonasia R. to Illinois Cr. Subtotal (Excluding the Koyukuk River)</i>	3,693	2,412	3,332	4,231	3,671	3,300	4,184	8,175	1,152	3,468	1,473	2,359	3,389	3,680
Huslia	0	31	124	201	150	235	150	233	9	47	307	18	148	149
Hughes	138	0	0	104	91	43	9	21	3	33 e	153	51	48	37
Alakaket/Alaina f	118	15	23	178	118	36	108	0	3	53 e	0	39	74	27
Bettles					0	0	0	0	0	0	1	0	0 x	0
<i>Koyukuk River Subtotal</i>	256	46	147	483	359	314	267	254	15	133	461	108	270	213
<i>District 4 Subtotal</i>	3,949	2,458	3,479	4,714	4,030	3,614	4,451	8,429	1,167	3,601	1,934	2,467	3,659	3,904

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Village	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1986-1990 Average	1991-1995 Average
Tanana	7,384	4,691	6,680	16,922	5,518	8,580	4,448	11,405	5,576	2,587	2,154	6,110	8,478	5,234
Rampart	513	110	81	842	87	591	58	75	38	99	0	5	342	54
Fairbanks (permits) g i	13	709	6	0	0	5	8	34	0	25	18	42	144	17
Stevens Village	182	67	0	604	208	479	0	20	0	0	1	2	272	4
Beaver	1	124	0	164	774	172	1	398	135	10	20	7	247	113
Ft. Yukon	3	118	41	370	406	727	380	341	5	963	4	157	332	339
Circle/Central (permits) h	0	37	0	41	1	206	5	54	10	30	0	0	57	20
Eagle (permits) h	2	6	0	11	0	0	0	3	85	0	1	1	3	18
Other (permits) h i				0	165	450	12	0	0	0	7	0	205	4
<i>Illinois Cr. to U.S. Can. Border Subtotal (Excluding Chandalar/Black Rivers)</i>	8,098	5,862	6,808	18,954	7,159	11,210	4,912	12,331	5,849	3,714	2,205	6,324	10,081	5,802
Venetie	0	0	17	0	2	348	12	45	135	4	0	264	73	39
Chalkyitsik	8	8	2	801	26	4	7	0	0	456	0	0	168	93
<i>Chandalar/Black River Subtotal</i>	8	8	19	801	28	352	19	45	135	460	0	264	242	132
<i>District 5 Subtotal</i>	8,098	5,870	6,827	19,755	7,187	11,562	4,931	12,376	5,984	4,174	2,205	6,588	10,322	5,934
Manley j	1,926	538	1,467	2,103	5,310	7,574	6,361	4,725	1,535	10,410	7,395	2,462	3,398	6,085
Minto j	1,144	1,058	671	2,729	1,179	818	526	614	300	2,616	338	1,223	1,291	879
Nenana j	7,614	10,090	19,592	25,369	7,593	7,381	10,171	8,895	1,314	9,387	7,142 e	7,883	14,005	7,382
Fairbanks (permits) h k	1,077	1,635	0	0	0	66	2,501	2,281	0	2,103	3,076 e	2,314	340	1,992
Other j l					4,759	1,774	2,002	1,039	1,155	1,973	851	1,011	3,267	1,404
<i>Tanana River District 6 Subtotal</i>	11,761	13,321	21,730	30,201	18,841	17,613	21,561	17,554	4,304	26,489	18,802	14,893	22,301	17,742
<i>Upper Yukon Total</i>	23,808	21,649	32,036	54,670	30,058	32,789	30,943	38,359	11,455	34,264	22,941	23,948	36,282	27,580
<i>Alaska Total</i>	32,264	34,468	46,213	69,679	40,924	43,460	37,388	51,980	15,812	41,861	28,377	30,404	48,548	36,118

a More detailed documentation of the estimated subsistence harvests are available in each year's respective Yukon Area Annual Management Report (1961 to 1995).

Beginning in 1988 subsistence salmon harvest estimates have been generated from a stratified random sample of village households. Numbers include test fish catches given away.

Blanks indicate harvest information was not collected.

b The village was not surveyed, harvest estimates were calculated from calendar and post card replies.

c 1987 and 1988 average harvest.

d 1992 through 1995 average harvest.

e Due to floods in 1994, Hughes, Allakaket, and Alaina were not surveyed. The 1994 fall chum salmon harvest is estimated using 5 year average 1989-1993.

f Alaina combined with Allakaket.

g Harvests by Fairbanks subsistence use permit holders that fished in District 5 near the Yukon River bridge crossing.

h Salmon catches expanded for permits not returned and household interviews (1981-1989). Beginning 1990, reported harvest is from returned permits only.

i Other permit holders that fished in District 5 but did not reside in the villages listed.

j Permits required beginning in 1988 for Subdistricts 6-A and 6-B. In 1988 and 1989, permit and household interview data were expanded. Beginning in 1990, reported harvest is from returned permits only.

k Harvests by Fairbanks subsistence use permit holders that fished in the Tanana River. Permits required beginning in 1964 for the Tanana River upstream of the Wood River.

l Other permits holders that fished in District 6 but did not reside in the villages listed.

x 1989 and 1990 average harvest.

Appendix B.5 Subsistence salmon harvests taken under authority of a permit in portions of District 5, Yukon Area, 1974-1996. a

Yukon River "Bridge" Area Subsistence Salmon Fishery b							
Year	Number of Permits Issued	Number of Permits Returned	Number Reporting Harvest c	Reported Harvest			Coho
				Chinook	Summer Chum d	Fall Chum d	
1974	29	-	-	591	-	1,857	1,271
1975	19	-	-	727	-	778	70
1976	28	-	18	531	-	974	-
1977	38	-	-	467	-	2,567	-
1978	57	-	-	1,333	-	9,735	-
1979	55	-	41	2,194	-	12,374	-
1980	70	-	67	1,350	-	6,488	36
1981	57	-	24	1,095	-	12,034	-
1982	64	-	44	1,935	-	11,328	20
1983	68	-	46	2,672	-	15,059	-
1984	67	-	54	4,676	-	27,869	399
1985	55	-	42	2,618	-	21,832	33
1986	76	-	58	3,827	-	18,690	759
1987	16	-	14	1,818	2,091	7,631	6
1988	24	21	18	1,747	2,097	3,183	606
1989	26	20	13	2,483	574	1,157	309
1990	26	25	16	2,033	3,493	1,109	455
1991	52	46	34	2,529	1,295	3,953	20
1992	45	42	33	2,241	975	2,491	34
1993	49	47	36	3,767	492	2,915	16
1994	50	49	36	3,073	384	2,911	25
1995	59	59	39	3,253	954	2,244	59
1996	47	45	31	1,157	3,475	2,727	42

Upper Yukon River Area Subsistence Salmon Fishery e							
Year	Number of Permits Issued	Number of Permits Returned	Number Reporting Harvest c	Reported Harvest			Coho
				Chinook	Summer Chum d	Fall Chum d	
1979	75	-	6	4,063	-	30,475	114
1980	48	-	39	3,649	-	18,477	6
1981	71	-	51	4,510	-	38,333	-
1982	60	-	61	3,833	-	15,432	-
1983	53	-	52	2,831	-	23,708	-
1984	58	-	54	2,543	-	21,675	17
1985	59	-	36	2,419	-	19,059	2
1986	40	-	52	4,148	-	20,701	43
1987	51	51	58	3,602	2,495	27,369	0
1988	58	57	50	2,783	2,134	9,078	101
1989	59	56	42	1,186	68	7,515	1
1990	81	75	54	3,746	1,629	14,992	206
1991	70	69	48	3,219	658	14,898	5
1992	85	79	54	2,984	409	12,009	57
1993	79	79	49	1,910	118	2,419	95
1994	79	76	51	3,093	145	12,844	30
1995	87	87	53	3,628	129	19,047	1
1996	86	84	51	3,458	528	20,861	1

a Prior to 1988 salmon harvest expanded for permits not returned. Beginning in 1988, reported harvest from returned permits only. Dashes in the table indicate the information is not available.

b That portion of the Yukon River drainage from Hess Creek to Dall River.

c Some fishermen reporting harvests did not have permits.

d Summer chum and fall chum salmon undifferentiated from 1974-1986.

e That portion of the Yukon River drainage from 22 Mile Slough, above the village of Fort Yukon to the United States/ Canadian border.

Appendix B.6 Subsistence salmon harvests taken under authority of a permit, Tanana River drainage, 1973-1996. a

Subdistrict 6-A Subsistence Salmon Fishery b							
Year	Number of Permits Issued	Number of Permits Returned	Number Reporting Harvest	Reported Harvest			
				Chinook	Summer Chum	Fall Chum	Coho
1988	28	24	18	845	1,389	9,165	3,455
1989 c	29	28	24 d	651	1,918	25,266	5,292
1990 c	42	36	26	1,369	2,250	27,957	8,408
1991	45	41	31	420	1,716	17,472	8,486
1992	38	35	26	508	450	5,999	5,028
1993 c	42	41	22	331	784	2,617	1,317
1994 e	37	37	30	576	3,793	18,076	12,449
1995 e	41	38	29	456	4,898	23,522	11,344
1996 e	31	29	23	209	1,338	18,931	5,959

Subdistrict 6-B Subsistence Salmon Fishery b							
Year	Number of Permits Issued	Number of Permits Returned	Number Reporting Harvest	Reported Harvest			
				Chinook	Summer Chum	Fall Chum	Coho
1988	75	66	52	3,721	3,167	18,902	18,906
1989 f	60	51	37 d	455	363	18,506	8,453
1990 f	70	58	38	1,234	1,966	16,332	9,155
1991 f	87	78	51	1,796	2,373	21,629	11,971
1992 f	98	89	57	1,587	7,820	18,782	11,409
1993	99	89	38	1,341	5,976	7,166	2,987
1994	102	94	49	1,337	2,035	13,726	12,480
1995	98	98	59	1,322	6,712	25,364	7,458
1996	105	96	59	968	6,138	17,439	8,934

Subdistrict 6-C Subsistence Salmon Fishery							
Year	Number of Permits Issued	Number of Permits Returned	Number Reporting Harvest	Reported Harvest			
				Chinook	Summer Chum	Fall Chum	Coho g
1973	22	-	4	26	771	886	-
1974	70	-	-	38	1,373	1,580	-
1975	36	-	-	32	751	864	-
1976	110	-	-	31	1,314	1,512	-
1977	89	-	33	81	118	607	-
1978	160	-	126	126	2,729	1,188	-
1979	246	-	199	264	2,384	4,459	-
1980	315	-	254	282	3,729	4,059	-
1981	346	-	228	440	3,239	5,770	-
1982	330	-	209	451	2,708	4,521	-
1983	259	-	147	475	2,276	3,830	-
1984	308	-	212	321	3,177	5,134	-
1985	291	-	155	326	2,646	3,937	-
1986	323	-	211	637	4,031	4,437	-
1987 h	217	-	123	531	2,739	0	0
1988	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0
1990 i	19	18	6	15	69	279	50
1991	149	142	98	299	980	1,080	1,089
1992	149	146	90	343	1,234	896	1,116
1993 j	0	0	0	0	0	0	0
1994 k	145	142	107	457	1,198	1,600	1,545
1995 l							

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Upper Tanana River Drainage Subsistence Salmon Fishery							
Year	Number of Permits Issued	Number of Permits Returned	Number Reporting Harvest	Reported Harvest			
				Chinook	Summer Chum	Fall Chum	Coho
1988	0	0	0	0	0	0	0
1989	2	2	2	5	0	39	0
1990	1	1	0	0	0	0	0
1991	8	7	6	0	0	288	14
1992	11	11	4	0	0	36	1
1993	10	10	8	0	0	5	0
1994	7	7	3	0	0	202	15
1995	50	46	12	0	0	88	0
1996	42	39	15	0	10	97	0

- a Prior to 1988, salmon harvests expanded for permits not returned. Beginning in 1988, reported harvest from returned permits only. Dashes in the table indicate the information is not available.
- b Permit requirement for Subdistricts 6-A and 6-B went into effect in 1988; however, many Subdistrict 6-A fishermen did not obtain a permit in 1988 and 1989.
- c Includes salmon given away as part of the Departments test fishing projects in Manley.
- d Includes harvests reported by fishermen that did not have permits.
- e Includes Kantishna River permits.
- f Includes salmon given away as part of the Alaska Department of Fish and Game test fishing projects in Nenana.
- g Fall chum and coho salmon were not reported as separate species prior to 1988.
- h Personal use fishery established for nonrural residents beginning in July of 1987.
- i Some fishermen had both personal use and subsistence permits since the McDowell Decision which became effective July 1990 (midway through the season) stated that all Alaskan residents were eligible subsistence participants.
- j Personal use fishery established for those fishing for salmon in the nonsubsistence area which included Subdistrict 6-C.
- k No personal use permits were issued in 1994 for this area.
- l In 1995 subsistence regulations were repealed within the Fairbanks Nonsubsistence Area, which includes the entire Subdistrict 6-C.

Appendix B.7 Personal use salmon harvests taken under authority of a permit in the Lower Yukon Area, and in District 5 of the Upper Yukon Area, 1987-1991. a

Lower Yukon Personal Use Salmon Fishery							
Year	Number of Permits Issued	Number of Permits Returned	Number Reporting Harvest	Reported Harvest			
				Chinook	Summer Chum	Fall Chum	Coho
1987	0	0	0			0	
1988	17	14	10	67	416	5	0
1989	26	23	12	286	381	18	59
1990	19	16	15	450	256	60	8
1991 b	0	0	0	0	0	0	0

Yukon River "Bridge" Area Personal Use Salmon Fishery c							
Year	Number of Permits Issued	Number of Permits Returned	Number Reporting Harvest d	Reported Harvest			
				Chinook	Summer Chum	Fall Chum	Coho
1987	42	-	33	1,674	4,262	15,750	58
1988	45	42	35	1,435	567	1,762	103
1989	45	42	32	1,877	295	3,294	82
1990 e	41	36	26	1,529	641	3,723	18
1991 b	0	0	0	0	0	0	0

Upper Yukon River Personal Use Salmon Fishery f							
Year	Number of Permits Issued	Number of Permits Returned	Number Reporting Harvest d	Reported Harvest			
				Chinook	Summer Chum	Fall Chum	Coho
1987	2	2	2	32	0	0	0
1988	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0
1990	4	4	3	164	0	0	0
1991 b	0	0	0	0	0	0	0

- a Personal use fishery during 1987 applied to nonrural residents harvesting only fall chum salmon. Beginning in 1988, nonrural personal use fishing applied to all salmon species and reported harvest is from returned permits only. Effective July 1, 1990 all Alaskan residents became eligible for subsistence fishing permits. Dashes in the table indicate the information is not available.
- b After 1991 the regulations did not provide for a personal use fishery in these areas.
- c That portion of the Yukon River drainage from Hess Creek to Dall River.
- d Prior to 1990, some fishermen reporting harvests did not have permits.
- e Includes personal use harvest of two chinook salmon taken by one permittee from a non-permit area below Rampart.
- f That portion of the Yukon River drainage from 22 Mile Slough, above the village of Fort Yukon, to the United States/Canada border.

Appendix B.8 Personal use salmon harvests taken under authority of a permit, Tanana River drainage, 1987-1996. a

Subdistrict 6-A Personal Use Salmon Fishery							
Year	Number of Permits Issued	Number of Permits Returned	Number Reporting Harvest	Reported Harvest			
				Chinook	Summer Chum	Fall Chum	Coho
1987	0	0	0			0	
1988	1	1	0	0	0	0	0
1989	1	1	1	0	4	0	0
1990	1	1	0	0	0	0	0
1991	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0

Subdistrict 6-B Personal Use Salmon Fishery							
Year	Number of Permits Issued	Number of Permits Returned	Number Reporting Harvest	Reported Harvest			
				Chinook	Summer Chum	Fall Chum	Coho
1987	0	0	0			0	
1988	1	1	1	306	60	40	22
1989	1	1	1	56	220	0	0
1990	4	4	3	9	12	40	35
1991	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0

Subdistrict 6-C Personal Use Salmon Fishery							
Year	Number of Permits Issued	Number of Permits Returned	Number Reporting Harvest	Reported Harvest			
				Chinook	Summer Chum	Fall Chum	Coho
1987	132 b	-	60 c			3,316	2,465
1988	208	162	120	317	1,182	2,074	1,125
1989	175	160	112	397	991	1,770	731
1990	152	144	102	442	918	1,353	1,120
1991	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0
1993	133	131	79	426	674	163	0
1994	0	0	0	0	0	0	0
1995	139	138	91	399	780	863	417
1996	129	125	73	215	905	356	198

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Upper Tanana River Personal Use Salmon Fishery							
Year	Number of Permits Issued	Number of Permits Returned	Number Reporting Harvest	Reported Harvest			
				Chinook	Summer Chum	Fall Chum	Coho
1987	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0
1992 d							

- a Personal use fishery during 1987 applied to nonrural residents harvesting only fall chum salmon. Beginning in 1988, nonrural personal use fishing applied to all salmon species and reported harvest is from returned permits only. Effective July 1, 1990 all Alaskan residents became eligible for subsistence fishing permits. In 1993 the Board established the Fairbanks Nonsubsistence Area, this designated fishermen residing in the area as personal use. In 1994 a Superior Court decision invalidated the Fairbanks Nonsubsistence Area and subsistence regulations applied. In 1995 the Board amends the Fairbanks Nonsubsistence Area to apply personal use regulations to all fishermen fishing in the area. Dashes in the table indicate the information is not available.
- b Represents 60 former subsistence fishermen who were reissued personal use permits to fish for fall chum salmon.
- c Some fishing families used both subsistence and personal-use permits.
- d During 1991 the regulations did not provide for a personal use fishery in this area.

Appendix B.9 Subsistence and personal use chum salmon carcasses taken
under authority of a permit, Tanana River drainage, 1973-1995.

Upper Tanana River (Big Delta Area)
Subsistence and Personal Use Chum Salmon Carcass Fishery

Year	Number of Permits Issued ^a	Number of Permits Returned	Number Reporting Harvest	Fall Chum Salmon Carcasses
1973	16	-	8	1,561
1974	21	-	-	1,974
1975	26	-	-	2,573
1976	36	-	-	3,441
1977	46	-	29	5,816
1978	70	-	43	2,517
1979	32	-	25	4,582
1980	57	-	36	4,915
1981	43	-	27	5,030
1982	37	-	13	1,690
1983	45	-	29	5,357
1984	31	-	14	2,353
1985	30	-	14	2,111
1986	27	-	19	2,276
1987	20	17	13	1,931
1988	22	20	15	2,100
1989	12	12	10	1,785
1990	7	7	3	750
1991	8	4	3	741
1992	10	10	9	1,897
1993 ^b	0	0	0	0
1994	4	4	4	250
1995 ^c				

a Personal use permits in 1987 through 1990 and in 1993. Subsistence permits issued in 1973 to 1986, 1991, 1992, and in 1994. Dashes in the table indicate the information is not available.

b In 1993 the department did not issue personal use carcass permits, to reduce spawning habitat disturbances.

c In 1995 all subsistence, personal use, sport, and commercial fishing was closed by regulations adopted by the Board of Fisheries in that portion of the Delta River from the mouth to a department marker two miles upstream.

Appendix B.10 Households with dogs, number of dogs, and salmon fed to dogs, as estimated in surveyed villages or reported in permit areas, Yukon Area, 1990-1996.

Districts Surveyed or Permit	Number of Households with Dogs	Number of Dogs	Summer Chum Salmon Fed to Dogs	Fall Chum Salmon Fed to Dogs	Coho Salmon Fed to Dogs	Total Salmon Fed to Dogs a
1990						
Survey Coastal District	-	-	-	-	-	-
Survey District 1	-	457	2,859	372	0	3,231
Survey District 2	-	778	3,279	415	3,667	7,361
Survey District 3	-	191	3,232	120	166	3,518
Survey District 4	-	1,469	96,273	6,911	2,512	105,696
Survey District 5	-	1,288	5,697	72,426	9,120	87,243
Permits District 5 b	-	-	-	-	-	-
Permits District 6	-	-	-	-	-	-
Totals	0	4,183	111,340	80,244	15,465	207,049
1991						
Survey Coastal District	-	-	-	-	-	-
Survey District 1	-	352	30	0	16	46
Survey District 2	-	546	724	652	875	2,251
Survey District 3	-	104	360	150	0	510
Survey District 4	-	1,706	171,258	903	591	172,752
Survey District 5	-	1,522	28,521	54,658	2,755	85,934
Permits District 5 b	49	299	-	-	-	11,024
Permits District 6	220	2,081	-	-	-	19,977
Totals	269	6,610	200,893	56,363	4,237	292,494
1992						
Survey Coastal District	133	513	659	0	0	659
Survey District 1	262	617	512	1,000	153	1,665
Survey District 2	285	971	694	247	2,237	3,178
Survey District 3	90	395	657	74	37	768
Survey District 4	459	2,177	143,749	6,950	3,323	154,022
Survey District 5	323	1,577	12,897	38,529	14,529	65,955
Permits District 5 b	52	372	-	-	-	7,026
Permits District 6	255	2,586	-	-	-	18,115
Totals	1,859	9,208	159,168	46,800	20,279	251,388
1993						
Survey Coastal District	150	391	0	0	0	0
Survey District 1	280	690	654	70	22	746
Survey District 2	232	880	794	260	670	1,724
Survey District 3	90	342	1,421	234	152	1,807
Survey District 4	463	1,750	46,043 c	4,405	589	51,037
Survey District 5	348	1,840	5,490	38,888	5,147	49,525
Permits District 5 b	54	293	-	-	-	1,133
Permits District 6	143	2,595	-	-	-	1,547
Totals	1,760	8,781	54,402	43,857	6,580	107,519
1994						
Survey Coastal District	161	367	1,287	0	0	1,287
Survey District 1	288	819	267	144	384	795
Survey District 2	286	1,074	1,066	653	2,470	4,189
Survey District 3	97	309	1,118	0	25	1,143
Survey District 4 d	453	1,753	97,288 e	4,720	3,053	105,061
Survey District 5	355	1,426	10,903	51,674	4,422	66,999
Permits District 5 b	103	563	-	-	-	9,874
Permits District 6	212	2,269	-	-	-	34,111
Totals	1,955	8,580	111,929	57,191	10,354	223,459

- Continued -

Districts Surveyed or Permit	Number of Households with Dogs	Number of Dogs	Summer Chum Salmon Fed to Dogs	Fall Chum Salmon Fed to Dogs	Coho Salmon Fed to Dogs	Total Salmon Fed to Dogs ^a
1995						
Survey Coastal District	158	596	2,919	214	0	3,133
Survey District 1	223	391	531	43	7	581
Survey District 2	213	677	1,587	436	979	3,002
Survey District 3	111	347	8,450	265	100	8,815
Survey District 4	423	1,830	183,385 ^f	9,092	1,151	193,628
Survey District 5	356	1,443	6,221	50,680 ^g	2,107	59,008
Permits District 5 b	54	495	-	-	-	17,980
Permits District 6 h	103	1,864	-	-	-	50,731
Totals	1,641	7,643	203,093	60,730	4,344	336,878
1996						
Survey Coastal District	159	406	0	0	0	0
Survey District 1	298	682	1,847	250	38	2,135
Survey District 2	251	1,044	1,460	1,724	1,423	4,607
Survey District 3	134	513	3,558	0	0	3,558
Survey District 4	468	1,607	130,575 ^j	5,771	1,324	137,670
Survey District 5	325	1,289	10,155	48,836 ^k	5,966	64,957
Permits District 5 b	53	293	-	-	-	13,870
Permits District 6 h	176	1,907	-	-	-	43,590
Totals	1,864	7,741	147,595	56,581	8,751	270,387

a Includes commercial and subsistence harvests for dogs from 1993 through 1996. Only commercial harvests greater than a thousand are noted.

b Permit totals do not include the community of Stevens Village.

c Includes 26,218 summer chum salmon from the commercial fishery retained for subsistence use.

d Does not include the villages of Hughes, Allakaket, Alatna, which were not surveyed due to a major flood event.

e Includes 70,202 summer chum salmon from the commercial fishery retained for subsistence use.

f Includes 164,300 summer chum salmon from the commercial fishery retained for subsistence use.

g Includes 20,837 fall chum salmon from the commercial fishery retained for subsistence use.

h Information was only collected from households that were issued subsistence permits.

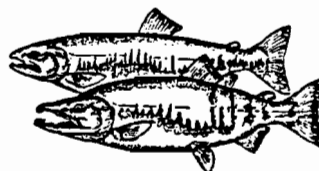
j Includes 117,931 summer chum salmon from the commercial fishery retained for subsistence use.

k Includes 11,386 fall chum salmon from the commercial fishery retained for subsistence use.

APPENDIX C

YUKON RIVER DRAINAGE SUBSISTENCE SALMON SURVEY AND PERMIT HARVEST FORMS

Appendix C.1. Example of the subsistence salmon harvest calendar mailed to Lower Yukon Area fishermen, 1996.



May 1996

Dear Subsistence Fishermen:

Welcome to the 1996 subsistence salmon fishing season. Enclosed is the Department of Fish and Game, Commercial Fisheries Management and Development Division's Yukon River drainage subsistence salmon harvest recording calendar. Please record the number of salmon caught each day for your household on this calendar. Please include salmon that were caught by your household but given to people who live in other households. Additionally, include on this calendar all salmon that were caught for dog food. Do not include salmon sold when commercial fishing or fish caught by other households and given to you.

When finished salmon fishing for the year, please have the calendar available for pick up by the surveyors or close the calendar by applying tape to the appropriately marked areas (see back of calendar), and place the self-addressed, postage-paid calendar in the mail -- NO POSTAGE IS REQUIRED.

The information obtained through these calendars and the surveys is used to document the subsistence salmon needs and to try to make sure there will be enough salmon for the future. If you have any questions or comments, please call (907) 459-7274.

THANK YOU, and we hope you have a successful fishing season.

NOTE: Calendar pictures are as follows: (1) King salmon eggs and beads drying; (2) Fish wheels at Hawk Bluff on the Yukon River near Anvik during a commercial period; (3) preparing subsistence caught king salmon strips for smoking, Bishop Rock near Galeton; and (4) fishermen delivering their catch following a commercial fall season fishing period in Emmonak.

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
MAY 1996 SUBSISTENCE SALMON CALENDAR						
		1	2	3	4	
		KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____	
5	6	7	8	9	10	11
KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____
12	13	14	15	16	17	18
KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____
19	20	21	22	23	24	25
KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____
26	27	28	29	30	31	LOWER YUKON
KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____	KING _____ DOG _____	

Appendix C.1. (Page 2 of 5)



<u>KEY</u>	<u>SPECIES</u>	<u>COMMON LOCAL NAME</u>
Early Season	Chinook Salmon Summer Chin Salmon Pink Salmon	King, Dorynoot, Dorynootup, Tarynoot, Kinging, Chikid-oh Dog, Cham, Kevikam, Kamidikht, Tarmarot, Pota Fish, Early Cham, Iqahik, Teggamashik Happy, Amayoot, Chikup
Late Season	Fall Chin Salmon Chin Salmon	Silver, Chikik, Olkik, Dog, Late Cham, Red Cham, Qlaku, Qlaku, Salmo, Dalayot, Uperik, Nar'namik Chinook, Silver, Red, Redfish, Oskivak, Kakevot, Kakevot, Gwagvot, Gwagvot-Noy Fish, Iqah, Qagvotik, Not...

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
JUNE 1996						1 KING _____ DOG _____ HUMPY _____
2 KING _____ DOG _____ HUMPY _____	3 KING _____ DOG _____ HUMPY _____	4 KING _____ DOG _____ HUMPY _____	5 KING _____ DOG _____ HUMPY _____	6 KING _____ DOG _____ HUMPY _____	7 KING _____ DOG _____ HUMPY _____	8 KING _____ DOG _____ HUMPY _____
9 KING _____ DOG _____ HUMPY _____	10 KING _____ DOG _____ HUMPY _____	11 KING _____ DOG _____ HUMPY _____	12 KING _____ DOG _____ HUMPY _____	13 KING _____ DOG _____ HUMPY _____	14 KING _____ DOG _____ HUMPY _____	15 KING _____ DOG _____ HUMPY _____
16 KING _____ DOG _____ HUMPY _____	17 KING _____ DOG _____ HUMPY _____	18 KING _____ DOG _____ HUMPY _____	19 KING _____ DOG _____ HUMPY _____	20 KING _____ DOG _____ HUMPY _____	21 KING _____ DOG _____ HUMPY _____	22 KING _____ DOG _____ HUMPY _____
23 KING _____ DOG _____ HUMPY _____	24 KING _____ DOG _____ HUMPY _____	25 KING _____ DOG _____ HUMPY _____	26 KING _____ DOG _____ HUMPY _____	27 KING _____ DOG _____ HUMPY _____	28 KING _____ DOG _____ HUMPY _____	29 KING _____ DOG _____ HUMPY _____
30 KING _____ DOG _____ HUMPY _____	SUBSISTENCE-SALMON CALENDAR					

Appendix C.1. (Page 3 of 5)



KEY	SYMBOL	COMMON LOCAL NAMES
Early Season	Chinook Salmon Summer Chin Salmon Pink Salmon	King, Deryayak, Darvakh, Tarmayak, Kapan, Chikich Dog, Chin, Kavitak, Kambikid, Tarmakot, Foko Fish, Early Chin, Isakik, Teggamukot Humpy, Amayayot, Chikotik
Late Season	Fall Chin Salmon Coho Salmon	Silver, Chikik, Chikik, Dog, Late Chin, Red Chin, Otkos, Otkos, Schin, Delayak, Uvayak, Nar'kot Chinook, Silver, Red, Kambik, Chikotik, Kalyayak, Kalyayot, Chigayot, Crested-Name Fish, Jack, Oqoyot, Net-Is

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
JULY 1996						
SUBSISTENCE SALMON CALENDAR						
LOWER YUKON	1 KING _____ DOG _____ HUMPY _____	2 KING _____ DOG _____ HUMPY _____	3 KING _____ DOG _____ HUMPY _____	4 KING _____ DOG _____ HUMPY _____	5 KING _____ DOG _____ HUMPY _____	6 KING _____ DOG _____ HUMPY _____
	7 KING _____ DOG _____ HUMPY _____	8 KING _____ DOG _____ HUMPY _____	9 KING _____ DOG _____ HUMPY _____	10 KING _____ DOG _____ HUMPY _____	11 KING _____ DOG _____ HUMPY _____	12 KING _____ DOG _____ HUMPY _____
	13 KING _____ DOG _____ HUMPY _____	14 KING _____ DOG _____ HUMPY _____	15 KING _____ DOG _____ HUMPY _____	16 KING _____ DOG _____ HUMPY _____	17 KING _____ DOG _____ HUMPY _____	18 KING _____ DOG _____ HUMPY _____
	19 KING _____ DOG _____ HUMPY _____	20 KING _____ DOG _____ HUMPY _____	21 KING _____ DOG _____ HUMPY _____	22 KING _____ DOG _____ HUMPY _____	23 KING _____ DOG _____ HUMPY _____	24 KING _____ DOG _____ HUMPY _____
	25 KING _____ DOG _____ HUMPY _____	26 KING _____ DOG _____ HUMPY _____	27 KING _____ DOG _____ HUMPY _____	28 KING _____ DOG _____ HUMPY _____	29 KING _____ DOG _____ HUMPY _____	30 KING _____ DOG _____ HUMPY _____
	31 KING _____ DOG _____ HUMPY _____	32 KING _____ DOG _____ HUMPY _____	33 KING _____ DOG _____ HUMPY _____	34 KING _____ DOG _____ HUMPY _____	35 KING _____ DOG _____ HUMPY _____	36 KING _____ DOG _____ HUMPY _____



KEY	RECIPE	COMMON LOCAL NAMES
Early Season	Chinook Salmon Summer Chinook Salmon Pink Salmon	King, Dorynook, Oorynook, Tarynook, Kaping, Chet-cho Dog Chin, Kevikot, Kevikot, Tarnatut, Pake Fish, Early Chin, Isitak, Tiggamutak Humpy, Amagayon, Chigak
Late Season	Fall Chin Salmon Coho Salmon	Silver, Chik, Chik, Dog, Late Chin, Red Chin, Chik, Okeo, Soko, Dohyok, Uperio, War'wame Chikot, Silver, Red, Rattish, Oshiyon, Kakeyok, Kakeyok, Oopayok, Crested-Horn Fish, Jack, Oopayok, Hot-ice

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
SUBSISTENCE SALMON CALENDAR				1 FALL CHUM _____ COHO _____	2 FALL CHUM _____ COHO _____	3 FALL CHUM _____ COHO _____
				4 FALL CHUM _____ COHO _____	5 FALL CHUM _____ COHO _____	6 FALL CHUM _____ COHO _____
11 FALL CHUM _____ COHO _____	12 FALL CHUM _____ COHO _____	13 FALL CHUM _____ COHO _____	14 FALL CHUM _____ COHO _____	15 FALL CHUM _____ COHO _____	16 FALL CHUM _____ COHO _____	17 FALL CHUM _____ COHO _____
18 FALL CHUM _____ COHO _____	19 FALL CHUM _____ COHO _____	20 FALL CHUM _____ COHO _____	21 FALL CHUM _____ COHO _____	22 FALL CHUM _____ COHO _____	23 FALL CHUM _____ COHO _____	24 FALL CHUM _____ COHO _____
25 FALL CHUM _____ COHO _____	26 FALL CHUM _____ COHO _____	27 FALL CHUM _____ COHO _____	28 FALL CHUM _____ COHO _____	29 FALL CHUM _____ COHO _____	30 FALL CHUM _____ COHO _____	31 FALL CHUM _____ COHO _____
<div style="text-align: center;"> AUGUST 1996 </div>						



<u>AKA</u>	<u>SPICES</u>	<u>COMMON LOCAL NAME</u>
Early Season	Chikot Salmon Summer Chisel Salmon Pink Salmon	King, Seryapnik, Daryapnik, Turayev, Kingling, Chikot-ko Dog Chik, Kevirak, Kuvirichik, Tumbalik, Prime Fish, Early Chum, Inpich, Tugayamnik Bumpy, Anapupuk, Chikotik
Late Season	Pell Chum Salmon Chin Salmon	Silva, Chikla, Chikil, Dog, Late Chum, Red Chum, Chikang, Odang, Selma, Dabnyat, Uperlik, Nor' nait Chikot, Silma, Red, Redfish, Chubling, Kalyapat, Kalyaput, Gupayut, Crashed-Meat Fish, Asak, Oupapeli, Not-Ak

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
<h1 style="text-align: center;">SEPTEMBER 1996</h1> <h2 style="text-align: center;">SUBSISTENCE SALMON CALENDAR</h2>						
1 FALL CHUM _____ COHO _____	2 FALL CHUM _____ COHO _____	3 FALL CHUM _____ COHO _____	4 FALL CHUM _____ COHO _____	5 FALL CHUM _____ COHO _____	6 FALL CHUM _____ COHO _____	7 FALL CHUM _____ COHO _____
8 FALL CHUM _____ COHO _____	9 FALL CHUM _____ COHO _____	10 FALL CHUM _____ COHO _____	11 FALL CHUM _____ COHO _____	12 FALL CHUM _____ COHO _____	13 FALL CHUM _____ COHO _____	14 FALL CHUM _____ COHO _____
15 FALL CHUM _____ COHO _____	16 FALL CHUM _____ COHO _____	17 FALL CHUM _____ COHO _____	18 FALL CHUM _____ COHO _____	19 FALL CHUM _____ COHO _____	20 FALL CHUM _____ COHO _____	21 FALL CHUM _____ COHO _____
22 FALL CHUM _____ COHO _____	23 FALL CHUM _____ COHO _____	24 FALL CHUM _____ COHO _____	25 FALL CHUM _____ COHO _____	26 FALL CHUM _____ COHO _____	27 FALL CHUM _____ COHO _____	28 FALL CHUM _____ COHO _____
29 FALL CHUM _____ COHO _____	30 FALL CHUM _____ COHO _____	<h1 style="text-align: center;">THANK YOU !</h1>				

Appendix C.2. Example of the preseason letter mailed with the subsistence harvest calendars, Yukon Area, 1996.

STATE OF ALASKA

DEPARTMENT OF FISH AND GAME

DIVISION OF COMMERCIAL FISHERIES MANAGEMENT AND DEVELOPMENT

TONY KNOWLES, GOVERNOR

1300 COLLEGE ROAD
FAIRBANKS, ALASKA 99701-1599
PHONE: (907) 459-7274
FAX: (907) 452-1668

May 15, 1996

Dear Subsistence Salmon Fishermen:

The 1996 salmon fishing season is rapidly approaching. Each year we strive to improve the accuracy of the Alaska subsistence salmon harvest estimate for the Yukon River drainage. These estimates are very important because they are used to ensure that there will be enough salmon for families along the river. The estimates are also used in regulation decisions by the Alaska Board of Fisheries and in the international treaty negotiations with Canada.

During our community visits and interviews with fishermen last fall, many of you expressed an interest in the results of the 1995 survey. We interviewed 1,011 out of the approximately 2,442 households in the surveyed area of the Yukon River drainage. We estimated 1,130 Yukon River households participated in Yukon River subsistence fisheries in 1995. Additional Yukon River Area subsistence and personal use salmon harvests were compiled from the 519 households who were issued permits to fish in areas of the Yukon or Tanana Rivers where permits were required.

A total of 51,019 chinook, 136,863 summer chum, 131,723 fall chum, and 28,794 coho salmon were estimated to have been harvested in both surveyed and permit areas of the Yukon River subsistence and personal use fisheries during the 1995 fishing season. The total Yukon River drainage subsistence and personal use salmon harvest has been estimated by community and fishing district on the attached table. To help us understand the role of the subsistence fishery in households and communities, we also recorded the size of the fishing households, the type of fishing gear used, the number of dogs, and the number of fish fed to dogs.

I would like to personally thank you for your participation in the 1995 survey. The project is continuing for the 1996 fishing season, and I have enclosed an improved 1996 fishing calendar for you to record your daily harvest of subsistence fish. Please note that the calendars are postage paid for returning them this fall. If you fish in more than one location, please keep track of the fish you catch in each area.

Thank you again for your cooperation!

Sincerely,

Bonnie Borba

Bonnie Borba
Fishery Biologist
Commercial Fisheries Management
and Development Division

Appendix C.2. (Page 2 of 2)

SUBSISTENCE AND PERSONAL USE SALMON HARVEST ESTIMATES, YUKON RIVER, 1995 ^{a/}								
Village	Estimation Method b/	Total Households or Permits Issued	Households Contacted or Permits Returned	Estimated Fishing Households	Estimated Harvest			
					Chinook	Summer Chum	Fall Chum	Coho
Hooper Bay	Survey	136	42	83	1,500	13,374	207	48
Sisson Bay	Survey	77	22	41	585	3,986	147	104
Sheldon Pt.	Survey	37	17	23	459	2,979	256	419
Alakanuk	Survey	135	41	74	1,191	10,538	631	658
Emmonak c/	Survey	157	70	80	1,711	11,696	1,614	485
Kotlik d/	Survey	103	39	55	2,599	9,777	2,197	689
District 1 Subtotal		645	231	232	5,960	34,990	4,698	2,251
Mt. Village e/	Survey	143	45	85	1,542	10,554	1,347	921
Pitkas Pt.	Survey	33	32	23	559	1,665	99	554
St. Marys	Survey	92	40	47	2,031	5,950	542	154
Pilot Station f/	Survey	93	37	46	1,614	4,427	575	241
Marshall	Survey	63	25	46	3,291	4,594	754	272
District 2 Subtotal		424	179	247	9,037	27,190	3,317	2,142
Russian Mission	Survey	56	20	33	2,450	3,653	865	891
Holy Cross	Survey	71	33	36	2,808	948	681	0
Shageluk	Survey	42	20	20	161	7,542	126	0
District 3 Subtotal		169	73	89	5,419	12,143	1,672	891
Anvik	Survey	40	17	17	450	9	269	10
Grayling	Survey	62	35	38	1,340	3,385	1,155	97
Kaktik	Survey	51	21	33	1,890	139	644	426
Nulato	Survey	90	30	49	1,533	228	1,137	25
Koyukuk	Survey	43	13	4	146	315	814	33
Galena g/	Survey	145	43	54	1,336	1,954	3,202	275
Ruby	Survey	69	25	21	1,435	4,445	4,695	607
District 4 Subtotal		500	184	216	8,130	10,475	11,916	1,473
Huslia	Survey	64	28	35	932	4,885	1,035	307
Hughes	Survey	25	19	9	77	2,448	263	153
Allakaket	Survey	46	22	14	321	6,396	260	0
Alatna	Survey	8	4	4	10	140	0	0
Bettles	Survey	28	21	7	4	740	583	1
Koyukuk R. Subtotal		171	94	69	1,344	14,609	2,141	461
Tanana h/	Survey	113	55	32	2,398	3,660	14,409	2,154
Rampart	Survey	27	25	18	1,461	1,168	1,403	0
Fairbanks NSB	Permit	46	46	31	1,447	722	2,184	18
Stevens Village	Survey	36	19	20	2,674	158	3,194	1
Birch Creek	Survey	15	13	2	93	0	0	0
Beaver	Survey	33	33	10	1,021	36	1,231	20
Pt. Yukon i/	Survey	218	56	52	3,132	998	9,196	4
Circle	Permit	15	15	9	1,145	70	5,102	0
Central	Permit	9	9	4	171	2	0	0
Eagle	Permit	46	46	32	1,886	57	13,115	1
Other j/	Permit	17	17	9	1,004	232	830	7
District 5 Subtotal		575	201	219	16,432	7,103	50,664	2,205
Verona	Survey	57	22	13	434	552	6,085	0
Chalkyitsik	Survey	34	27	6	0	0	845	0
Chandalar/Black Rivers Subtotal		91	49	19	434	552	6,930	0
Manley k/	Permit	28	25	19	335	1,657	20,272	7,395
Minto	Permit	65	64	28	535	1,320	4,782	338
Nemora	Permit	49	49	38	619	5,050	15,720	7,133
Healy	Permit	8	8	4	6	18	2,142	851
Fairbanks NSB	Permit	177	174	106	652	4,291	7,027	3,482
Delta Junction	Permit	7	7	4	0	0	85	0
Other l/	Permit	52	48	14	31	105	3	0
District 6 Tanana R. Subtotal		386	375	213	2,178	12,441	50,031	19,219
Survey Village Subtotals		2,442	1,011	1,130	43,188	123,339	60,461	9,549
Permit Area Subtotals m/		519	508	298	7,831	13,524	71,262	19,245
Yukon River Area Total		2,961	1,519	1,428	51,019	136,863	131,723	28,794

a/ Sources: "Subsistence and Personal Use Salmon Harvest Estimates, Yukon Area, 1995" (in prep.) by Bonnie Borbe and Helen Hammer, ADF&G. Harvests are listed by the fisherman's community of residence.

b/ Does not include permit information received after 2/29/96.

c/ Includes 795 chinook, 3,005 summer chum, 1,133 fall chum, and 240 coho salmon from ADF&G test fish catches.

d/ Includes 920 chinook, 3,377 summer chum, 1,275 fall chum, and 339 coho salmon from ADF&G test fish catches.

e/ Includes 1 chinook, 523 fall chum, and 559 coho salmon from BSFA test fish catches.

f/ Includes 166 chinook, 1,875 summer chum, 541 fall chum, and 205 coho salmon from ADF&G test fish catches.

g/ Includes 2 chinook, 57 summer chum, and 199 fall chum salmon from BSFA test fish catches.

h/ Includes 1,876 fall chum and 164 coho salmon from BSFA test fish catches.

i/ Includes 1,570 fall chum salmon from Council of Athabaskan Tribal Governments (CATG) test fish catches.

j/ Other includes residents other communities who fished in District 5 of the Yukon River Area.

k/ Includes 1 chinook, 50 summer chum, and 194 fall chum salmon from the Tanana River Tagging Project given away to a resident of Manley.

l/ Other includes residents of other communities who fished in District 6, the Tanana River.

m/ Permit totals include 41 permits issued for two different areas and include Tolovana River Pike permits. Permit totals do not include 13 subsistence salmon permits issued to Stevens Village residents.

Appendix C.3. Example of the subsistence salmon postseason interview form, Yukon Area, 1996.

Community _____ HHID# _____
 Date of Survey _____ Person interviewed _____
 Interviewer _____ Relation to HH _____

1996 Post-Season Subsistence Salmon Harvest Survey Yukon Area
 CONFIDENTIAL INFORMATION

1. We would like to make sure we have the correct name and address for this household.

Name of Household Head _____
 Occupational or Permanent Note _____
 Significant Other _____
 Occupational or Permanent Note _____
 Mailing Address _____ Telephone: _____

- [] Adult household member was contacted and declined to be interviewed. Reason given: _____

2. Did anyone in this household catch salmon for subsistence use this year? Yes _____ No _____ (If no go to area II.)
 Fish use includes fish eaten fresh, frozen, dried, smoked, and those used for dog food. Include all salmon kept for subsistence use. Include female carcasses with roe removed and roe sold commercially.

I. HOUSEHOLD FISHED

3. May I have your fish catch calendar? If you used a calendar are all the fish harvested on it? [] Yes [] No
 Picked up by interviewer _____ Didn't get one _____ Didn't Use _____ Not available _____ Already sent In _____

How many total salmon did you or your fishing group catch this year? ("group" may include other households)

CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____ Could not estimate _____

How many households help catch these fish? _____ (Names) _____

4. What portion was caught by this household?

CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____ Could not estimate _____

5. Where do you catch your subsistence salmon? (Circle all that apply and divide harvest by area)

Ocean 1 2 3 4A 4B 4C 5A 5B 5C 5D Porcupine, Koyukuk, Innoko, Chandalar, Black

1st Area _____ CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____ Could not estimate _____

2nd Area _____ CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____ Could not estimate _____

6. What is this households' primary type of subsistence salmon fishing gear? (In order of importance 1= primary)

Set net _____ Drift net _____ Fishwheel _____ Rod & Reel _____ Other _____

7. How many salmon did you process ("put up") for your household's use? If did not process, ask question 8.

CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____ Could not estimate _____

8. Did this household share the salmon catch with any other households? (Names, HHIDs, Species and Numbers)

9. Did you bring any fish home from commercial fishing for subsistence use? (In areas with roe fisheries - include female carcasses with roe removed and roe sold separately and all male salmon taken home.)

CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____ Could not estimate _____

10. How many fish were lost to spoilage, wild animals, and birds? (Include these numbers in the catch.)

II. ALL HOUSEHOLDS

11. Did this household catch any other fish besides salmon this year? (From Sept./Oct. of last year to now.)

WHITEFISH LG _____ WHITEFISH SM _____ SHEEFISH _____ BURBOT _____ PIKE _____ BLACKFISH _____
GRAYLING _____ SUCKERS _____ TROUT (Arctic Char) _____ EELS (Lamprey) _____ TOMCOD (Saffron) _____

12. Was this household given any salmon? Yes _____ No _____ From:

Subsistence Fishermen (Name) _____

CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____ Could not estimate _____

Subsistence Fishermen (Name) _____

CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____ Could not estimate _____

Commercial Fishermen (Name) (list only fish retained for subsistence use while commercial fishing) _____

CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____ Could not estimate _____

From Fish and Game (Where) _____

CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____ Could not estimate _____

13. How many people live in this household? _____ People

14. How many dogs does this household have? _____

Do you feed whole salmon to your dogs? Yes _____ No _____ Only Feed Scraps _____

How many whole salmon will you feed to your dogs this year? (These can be subsistence and commercial. Numbers should represent whole fish, not scraps.)

Were any of these salmon from the commercial fishery? Yes _____ No _____ Some _____

Estimate harvest by fishery:

(subsistence #'s) SUMMER CHUM (dog) _____ FALL CHUM (silver) _____ COHO (silver) _____

(commercial #'s) SUMMER CHUM (dog) _____ FALL CHUM (silver) _____ COHO (silver) _____

15. Did your household get enough subsistence salmon this year? Yes _____ No _____ Could not estimate _____

If the answer is no, ask:

Why didn't you meet your salmon needs this year? _____

What food are you planning to substitute for the salmon you didn't get? _____

THANK YOU VERY MUCH FOR YOUR HELP. THIS HARVEST INFORMATION WILL BE USED TO MAKE SURE THERE WILL BE ENOUGH SUBSISTENCE SALMON FOR FAMILIES ALONG THE RIVER.

Interviewer please note any comments about this interview or anything of value for assisting data analysis.

THIS HOUSEHOLD'S TOTAL SUBSISTENCE SALMON CATCH (This area is to be filled in by the surveyor after the interview)

Subtract numbers obtained in question 9 from numbers obtained from question 4.)

CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____ Could not estimate _____

THIS HOUSEHOLD'S TOTAL SUBSISTENCE SALMON USE (This area is to be filled in by the surveyor after the interview)

(Add numbers obtained from question 7 to numbers obtained from question 12.)

CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____ Could not estimate _____

Appendix C.4. Example of the Upper Yukon River and Kantishna River subsistence fishing permit application, 1996.

**Household Application and Permit
for Subsistence Fishing**
Dept. of Fish and Game, Commercial Fisheries Management and Development Division
1300 College Road, Fairbanks, AK 99701 Telephone (907) 459-7274



Name _____ Telephone _____
(PLEASE PRINT) (Home, Work, or Message)

Mailing Address _____ City _____ State _____ Zipcode _____

Total Household Members _____ Household Fishermen _____
(Include yourself) (Other household members besides yourself authorized to fish this permit)

Number of Dogs in Household _____ Do you feed whole salmon to dogs? (Circle one) yes no

Area to be Fished: (Circle one) Kantishna River, Yukon River Bridge, Circle/Eagle

Primary Gear to be Used: (Circle One) Fish Wheel -or- Set Gillnet

Conditions of Permit: All regulations pertaining to subsistence fishing in the area to be fished are to be observed. Anyone fishing this household's permit must be named above and carry this permit on their person during any fishing activity. For a 24-hour recording of personal use, subsistence, or commercial salmon fishing schedules, call (907) 459-7387. It is unlawful to buy or sell subsistence-taken fish, their parts, or their eggs.

An accurate record of fish taken under authority of this permit must be recorded in the appropriate spaces on the reverse side of this permit immediately upon landing. Return this permit with your completed catch information to the address above within 10 days after permit expiration date. **FAILURE TO RETURN YOUR PERMIT OR REPORT YOUR CATCH INFORMATION MAY RESULT IN YOUR NOT BEING ISSUED A PERMIT NEXT YEAR.**

X _____ Birthdate or _____
Date _____ Drivers License No. _____
Signature of Permittee - I hereby claim I am a resident of Alaska and that the above information I have provided is a true statement as witnessed by my signature.

TO BE COMPLETED BY ISSUING OFFICER

The above named household member(s) is authorized to take fish according to the following stipulations:
Permit is valid for the location marked below and expires October 15 of the year issued, unless otherwise noted.

- ☐ Kantishna River/SK Under authority of this permit 60 chinook salmon and 500 chum salmon may be taken from the Kantishna River drainage from the date of issue through August 15. From August 16 through December 31, 450 chum salmon may be taken. Fishermen are required to keep daily and cumulative harvest information at the fishing site that is accessible to department personnel. After August 16, the Kantishna River drainage fishery harvest limit is 2,000 chum salmon. Once the fishery limit is taken, the directed chum salmon subsistence fishery will close by emergency order. Permit expiration date is December 31 of the year issued.
- ☐ Yukon Bridge/SY Under authority of this permit fish may be taken from the Yukon River drainage from the mouth of Hess Creek to the mouth of the Dall River.
- ☐ Circle, Eagle/SE Under authority of this permit fish may be taken from the Yukon River drainage from the mouth of Twenty-two Mile Slough upstream to the U.S./Canada border.

Signature of Issuing Officer _____

Date Issued _____

Permit Number _____

CATCH FORM FOR YUKON AREA SUBSISTENCE FISHERY

THIS RECORD MUST BE SUBMITTED TO THE DEPARTMENT OF FISH AND GAME WITHIN 10 DAYS AFTER THE EXPIRATION DATE OF THE PERMIT WHETHER YOU FISHED OR NOT. FAILURE TO RETURN THIS FORM MAY BE CAUSE TO REFUSE YOU A SUBSISTENCE PERMIT NEXT YEAR.

[illegible]

RETURN TO: Alaska Department of Fish and Game
Commercial Fisheries Management
and Development Division
1300 College Road
Fairbanks, AK 99701
Telephone: (907) 459-7274

PLEASE CHECK THIS BOX IF YOU DID NOT FISH THIS YEAR ☐

Sign this Catch Report when you return it.

Date _____

Appendix C.5. Example of the Tanana River salmon and Tolovana River drainage pike subsistence fishing permit application, 1996.

**Household Application and Permit
for Subsistence Fishing**
Dept. of Fish and Game, Commercial Fisheries Management and Development Division
1300 College Road, Fairbanks, AK 99701 Telephone (907) 459-7274



Name _____ Telephone _____
(PLEASE PRINT) (Home, Work, or Message)

Mailing Address _____
City State Zipcode

Total Household Members _____ Household Fishermen _____
(Include yourself) (Other household members besides yourself authorized to fish this permit)

Number of Dogs in Household _____ Do you feed whole salmon to dogs? (Circle one) yes no

Area to be Fished: (Circle one) Tanana 6A, Tanana 6B, Upper Tanana (above the Fairbanks nonsubsistence area)

Primary Gear to be Used: (Circle One) Fish Wheel -or- Set Gillnet

Conditions of Permit: All regulations pertaining to subsistence fishing in the area to be fished are to be observed. Anyone fishing this household's permit must be named above and carry this permit on their person during any fishing activity. For a 24-hour recording of personal use, subsistence, or commercial salmon fishing schedules, call (907) 459-7387. It is unlawful to buy or sell subsistence-taken fish, their parts, or their eggs.

An accurate record of fish taken under authority of this permit must be recorded on the reverse side of this permit immediately upon landing. PERMITTEES FISHING IN THE UPPER PORTION OF SUBDISTRICT 6-B (three miles upstream of Totchaket Slough) ARE REQUIRED TO REPORT THEIR WEEKLY CATCHES BY CALLING THE DEPARTMENT OF FISH AND GAME AT (907) 459-7388 BY 4:30 P.M. EVERY THURSDAY. Return this permit with your completed catch information to the address above within 10 days after the permit expiration date. FAILURE TO RETURN YOUR PERMIT OR REPORT YOUR CATCH INFORMATION MAY RESULT IN YOUR NOT BEING ISSUED A PERMIT NEXT YEAR.

X _____ Date _____ Birthdate or Drivers License No. _____
Signature of Permittee - I hereby claim I am a resident of Alaska and that the information I have provided on this permit is true as witnessed by my signature.

TO BE COMPLETED BY ISSUING OFFICER

The above named household member(s) is authorized to take fish according to the following stipulations:
Permit is valid for the location marked and expires October 15 of the year issued, unless otherwise noted.

☐ Tanana 6A/SA Under authority of this permit 60 chinook salmon and 500 chum salmon may be taken from the date of issue through August 15. In addition, from August 16 through October 15, 2,000 chum and coho salmon combined may be taken (Note: A separate permit is required for the Kantishna River drainage).

☐ Upper Tanana/SU Under authority of this permit fish may be taken in the upper Tanana River drainage upstream of the Fairbanks Nonsubsistence Area. Permit expires December 31 of the year issued.

Signature of Issuing Officer

Date Issued

Permit Number

Revised 1/96

CATCH FORM FOR YUKON AREA SUBSISTENCE FISHERY

THIS RECORD MUST BE SUBMITTED TO THE DEPARTMENT OF FISH AND GAME WITHIN 10 DAYS AFTER THE EXPIRATION DATE OF THE PERMIT WHETHER YOU FISHED OR NOT. FAILURE TO RETURN THIS FORM MAY BE CAUSE TO REFUSE YOU A SUSTINENCE PERMIT NEXT YEAR.

[illegible]

RETURN TO: Alaska Department of Fish and Game
Commercial Fisheries Management
and Development Division
1300 College Road
Fairbanks, AK 99701
Telephone: (907) 459-7274

PLEASE CHECK THIS BOX IF YOU DID NOT FISH THIS YEAR

7

Sign this Catch Report when you return it.

Date _____

Appendix C.6. Example of the Yukon Area personal use fishing permit application, 1996.

**Household Application and Permit
for Personal Use Salmon Fishing**
Dept. of Fish and Game, Commercial Fisheries Management and Development Division
1300 College Road, Fairbanks, AK 99701 Telephone (907) 459-7274



Name _____ Telephone _____
(PLEASE PRINT) (Home, Work, or Message)

Mailing Address _____
City State Zipcode

Total Household Members _____ Household Fishermen _____
(Include yourself) (Other household members besides yourself authorized to fish this permit)

Area to be Fished: Subdistrict 6-C - Including the Tanana River upstream of the confluence with Wood River to the mouth of the Salcha River.

Primary Gear to be Used: (Circle One) Fish Wheel -or- Set Gillnet

Conditions of Permit: All regulations pertaining to personal use fishing in the area to be fished are to be observed. Anyone fishing this household's permit must be named above and carry this permit on their person during any fishing activity. For a 24-hour recording of personal use, subsistence, or commercial salmon fishing schedules, call (907) 459-7387. It is unlawful to buy, sell, trade, or barter fish or their parts, taken under personal use.

An accurate record of fish taken under authority of this permit must be recorded on the reverse side of this permit immediately upon landing. PERSONAL USE SALMON PERMITTEES ARE REQUIRED TO REPORT THEIR WEEKLY CATCHES BY CALLING THE DEPARTMENT OF FISH AND GAME AT (907) 459-7388 BY 4:30 P.M. EVERY THURSDAY. Return this permit with your completed catch information within 10 days after the permit expiration date. FAILURE TO RETURN YOUR PERMIT OR REPORT YOUR CATCH INFORMATION MAY RESULT IN YOUR NOT BEING ISSUED A PERMIT NEXT YEAR.

A resident Alaska sport fishing license is required by 5 AAC 77.010.
Permit is invalid unless permittee has in their possession a valid resident Alaska sport fishing license.

X _____ Date _____ Sport Fish License No. _____
Signature of Permittee - I hereby claim I am a resident of Alaska and that the above information I have provided on this permit is true as witnessed by my signature.

TO BE COMPLETED BY ISSUING OFFICER

The above named household member(s) is authorized to take salmon according to the following stipulations:
Permit is valid for Subdistrict 6-C and expires October 15 of the year issued, unless otherwise noted.

Tanana 6C/PC Under authority of this permit 10 chinook salmon and 75 chum salmon may be taken from the date of issue through August 15. In addition, from August 16 through October 15, 75 chum and coho salmon combined may be taken.

Signature of Issuing Officer

Date Issued

PC _____
Permit Number

CATCH FORM FOR YUKON AREA PERSONAL USE SALMON FISHERY

THIS RECORD MUST BE SUBMITTED TO THE DEPARTMENT OF FISH AND GAME WITHIN 10 DAYS AFTER THE EXPIRATION DATE OF THE PERMIT WHETHER YOU FISHED OR NOT. FAILURE TO RETURN THIS FORM MAY BE CAUSE TO REFUSE YOU A PERSONAL USE PERMIT NEXT YEAR.

[illegible]

RETURN TO: Alaska Department of Fish and Game
Commercial Fisheries Management
and Development Division
1300 College Road
Fairbanks, AK 99701
Telephone: (907) 459-7274

PLEASE CHECK THIS BOX IF YOU DID NOT FISH THIS YEAR

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Sign this Catch Report when you return it.

Date _____

Appendix C.7. Example of the letter sent to selected subsistence fishermen from the listed villages that complied with 1995 reporting requirements, announcing the dates and times for 1996 permit issuance, Yukon Area.

STATE OF ALASKA

DEPARTMENT OF FISH AND GAME

DIVISION OF COMMERCIAL FISHERIES MANAGEMENT AND DEVELOPMENT

TONY KNOWLES, GOVERNOR

1300 COLLEGE ROAD
FAIRBANKS, ALASKA 99701-1599
PHONE: (907) 459-7274
FAX: (907) 452-1668

May 10, 1996

Dear Fishermen:

Current regulations identify three areas in the upper Yukon River drainage for which salmon fishermen are required to obtain a subsistence or personal use permit. Subsistence fishing permits are required for fishing in the Eagle and Circle areas, near the Yukon River Bridge (between Hess Creek and the Dall River), and in most portions of the Tanana River drainage. Personal use permits are required to fish in that portion of the Tanana River that is included in the Fairbanks Non-Subsistence Area (between the Wood and Salcha Rivers, or Subdistrict 6-C). Our records indicate that you were issued a 1995 permit for one of the above areas. If you are planning to fish in 1996 in one of the regulated areas, you will again need to obtain a permit. We are writing to you prior to the 1996 fishing season to give you an opportunity to complete a subsistence or personal use permit for the 1996 season at one of the following places and times:

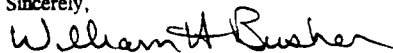
<u>Village</u>	<u>Date/Day</u>	<u>Time</u>	<u>Place</u>
MINTO	5/23/96 (Thurs.)	12 noon to 3 pm	Lake View Lodge
MANLEY	5/24/96 (Fri.)	10 am to 1 pm	Manley Roadhouse
NENANA	5/30/96 (Thurs.)	10 am to 2 pm	Boat Landing
CENTRAL	5/30/96 (Thurs.)	12 noon to 3 pm	Post Office
CIRCLE	5/31/96 (Fri.)	11 am to 2 pm	Boat Landing
EAGLE	6/4/96 (Tues.)	10:30 am to 1:30 pm	Post Office
DELTA JUNCT.	6/5/96 (Weds.)	9:30 am to 10:30 am	Delta F&G Office
DOT LAKE	6/5/96 (Weds.)	12:30 noon to 1:30 pm	City Office
TANACROSS	6/5/96 (Weds.)	3 pm to 6 pm	Community Center
TOK	6/6/96 (Thurs.)	8 am to 10 am	Tok F&G Office
NORTHWAY	6/6/96 (Thurs.)	12 noon to 3 pm	Community Hall
TETLIN VILLAGE	6/7/96 (Fri.)	10 am to 1 pm	Tetlin Native Office

If you would like to be personally issued a permit, please complete the top portion of the enclosed "Application and Permit" form and bring this with you to meet us when we come to your area. We will be completing the "Issuing Officer" portion of your application and returning the completed subsistence or personal use permit to you.

If you would like to be issued a permit by mail, please complete the top portion of the enclosed "Application and Permit" form, indicate any changes to your address, fill in the requested information, sign it, and return the "Application and Permit" forms to us. We will complete the "Issuing Officer" section, sign it, and mail it back to you. The application form is not a valid permit until you have completed and signed the top portion and we have completed the "Issuing Officer" portion and signed it.

If you have any questions or comments, please feel free to contact this office.

Sincerely,



William Busher
Fishery Biologist
Commercial Fisheries Management
and Development Division
(907)459-7274

Appendix C.8. Example of the first subsistence fishing permit reminder letter, 1996.

STATE OF ALASKA

DEPARTMENT OF FISH AND GAME

DIVISION OF COMMERCIAL FISHERIES MANAGEMENT AND DEVELOPMENT

TONY KNOWLES, GOVERNOR

1300 COLLEGE ROAD
FAIRBANKS, ALASKA 99701-1599
PHONE: (907) 459-7274
FAX: (907) 452-1668

October 31, 1996

John Doe
General Delivery
Fish Camp, AK 99###

Dear John:

The department issued subsistence fishing permit SB-####-96 to you for the 1996 season. To date, the department has not received your expired permit and catch information. Regulations require you to keep an accurate record of your catch and to return the expired permit with the catch record at the end of the season. Even if you did not fish, or caught no fish, you must return your permit. FAILURE TO REPORT YOUR CATCH INFORMATION AND RETURN YOUR YUKON AREA PERMIT WILL RESULT IN YOUR NOT BEING ISSUED A PERMIT NEXT YEAR.

Please return your expired permit and catch information at this time. If you are unable to locate the expired permit, please fill out the following questions and return this letter to: Department of Fish and Game, Commercial Fisheries Management and Development Division, 1300 College Road, Fairbanks, Alaska, 99701-1599.

I fished in 1996. (Circle one) Yes No

If you fished in 1996, please fill in the number of fish you harvested below.

Chinook/Kings _____ Summer Chums _____ Fall Chums _____

Cohos _____ Whitefish _____ Other _____

Whole salmon fed to dogs or put up for dog food _____

Signature

Date

Your catch information is needed to accurately document this season's harvest. Thank you in advance for your cooperation.

Sincerely,

Bonnie Borba
Fishery Biologist
Commercial Fisheries Management
and Development Division
(907) 459-7274

Appendix C.9. Example of the second personal use permit reminder letter sent to households which had complied with the inseason reporting requirement by telephone but had not reported postseason, 1996.

STATE OF ALASKA

DEPARTMENT OF FISH AND GAME

DIVISION OF COMMERCIAL FISHERIES MANAGEMENT AND DEVELOPMENT

TONY KNOWLES, GOVERNOR

1300 COLLEGE ROAD
FAIRBANKS, ALASKA 99701-1599
PHONE: (907) 459-7274
FAX: (907) 452-1668

November 15, 1996

Jane Doe
Cutters Place
Riverbank, AK 99###

Dear Jane:

The department issued personal use fishing permit PC-###-96 to you for the 1996 season. The summary of your inseason telephone reports indicate that you harvested the number of fish listed below:

Chinook 3 Summer Chum 11 Fall Chum 0 Coho 0

We appreciate and use your inseason telephone reporting. Although you may feel that you have completed your reporting requirement, we have not received your expired permit. Conditions of the permit you were issued requires that you keep an accurate record of your catch and that your expired permit with the catch information is returned at the end of the season. Your expired permit is needed to confirm the total number of fish you harvested this past season.

Please return your expired permit and catch information at this time. If you are unable to locate the expired permit, please fill in the number of fish you harvested this past season below and return this letter in the enclosed self-addressed stamped envelope.

Chinook/Kings _____ Summer Chums _____ Fall Chums _____
Cohos _____ Whitefish _____ Other _____

Signature _____

Date _____

Your catch information is needed to accurately document this season's harvest. This is your second and FINAL notice that we have not received your expired permit or confirmation of your 1996 season harvest. TO QUALIFY FOR A PERMIT NEXT YEAR, YOU MUST REPORT YOUR CATCH FOR THIS PAST SEASON.

Sincerely, .

Bonnie Borba
Fishery Biologist
Commercial Fisheries Management
and Development Division
(907) 459-7274

Appendix C.10. Example of a letter sent to commercial/subsistence fishermen and salmon buyers clarifying how harvest information should be reported, 1996.

STATE OF ALASKA

DEPARTMENT OF FISH AND GAME

DIVISION OF COMMERCIAL FISHERIES MANAGEMENT AND DEVELOPMENT

TONY KNOWLES, GOVERNOR

1300 COLLEGE ROAD
FAIRBANKS, AK 99701-1599
PHONE: (907) 459-7274
FAX: (907) 452-1668

June 22, 1996

Dear Commercial/Subsistence Fishermen and Salmon Buyers:

This letter is being distributed to Subdistricts 4-B and 4-C and Districts 5 and 6 commercial fishermen and salmon buyers. The Alaska Department of Fish and Game (ADF&G), Commercial Fisheries Management and Development Division would like to clarify how your harvest information should be reported both inseason and postseason to avoid double-counting of fish when calculating total salmon utilization.

Regulation 5 AAC 05.377. states, "each commercial salmon fisherman shall report on an ADF&G fish ticket, the number of salmon taken but not sold". This includes all males or unsplit females kept for subsistence use during a commercial period where a portion of the catch is sold. Split females in which the roe was removed and sold are accounted for in determining the number of females necessary to produce the roe sold. Do not report split females, from which the roe was sold, on subsistence catch calendars or on permits. Buyers purchasing any split female carcasses sold separately from the roe should note them on the fish ticket as "Split females with roe sold separately."

As you fill in your household's subsistence calendar or a subsistence fishing permit in the required areas, please include all males and unsplit females caught by your household that were taken home "in the round" for subsistence use during both commercial and subsistence periods. Include fish given away to other households or those harvested for dog food. In determining the subsistence utilization, the department will assume that fish reported on fish tickets as "taken but not sold" will also be reported on calendars or permits.

We appreciate your assistance in determining the subsistence salmon harvest as accurately as possible. If you have any questions, feel free to contact me.

Sincerely,

Bonnie Borba

Bonnie Borba
Fishery Biologist
Commercial Fisheries Management
and Development Division

OFFICE OF EQUAL OPPORTUNITY EMPLOYMENT

The Alaska Department of Fish and Game conducts all programs and activities free from discrimination on the basis of sex, color, race, religion, national origin, age, marital status, pregnancy, parenthood or disability. For information on alternative formats available for this and other department publications, please contact the department ADA Coordinator at (voice) 907-465-4120, (TDD) 1-800-478-3648, or (FAX) 907-586-6596. Any person who believes s/he has been discriminated against should write to: ADF&G, P.O. Box 25526, Juneau, AK 99802-5526; or O.E.O., U.S. Department of the Interior, Washington, D.C. 20240